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Should the genomic DNA downstream of the promoter contain, in an antisense orientation, at least a portion of an mRNA or a non-translated RNA encoding a gene product involved in proliferation, then induction of transcription from the promoter will result in detectable inhibition of proliferation.

In the case of *Staphylococcus aureus*, a shotgun library of *Staphylococcus aureus* genomic fragments was cloned into the vector pXyIT5-P15a, which harbors the XyIT5 inducible promoter. The vector was linearized at a unique *Bam*HI site immediately downstream of the XyIT5 promoter/operator. The linearized vector was treated with shrimp alkaline phosphatase to prevent reclosure of the linearized ends. Genomic DNA isolated from *Staphylococcus aureus* strain RN450 was fully digested with the restriction enzyme *Sau*3A, or, alternatively, partially digested with DNase I and "blunt-ended" by incubating with T4 DNA polymerase. Random genomic fragments between 200 and 800 base pairs in length were selected by gel purification. The size-selected genomic fragments were added to the linearized and dephosphorylated vector at a molar ratio of 0.1 to 1, and ligated to form a shotgun library.

The ligated products were transformed into electrocompetent E. coli strain XL1-Blue MRF (Stratagene) and plated on LB medium with supplemented with carbenicillin at  $100 \,\mu\text{g/ml}$ . Resulting colonies numbering 5 x  $10^5$  or greater were scraped and combined, and were then subjected to plasmid purification.

The purified library was then transformed into electrocompetent *Staphylococcus aureus* RN4220. Resulting transformants were plated on agar containing LB + 0.2% glucose (LBG medium) + chloramphenicol at 15 µg/ml (LBG+CM15 medium) in order to generate 100 to 150 platings at 500 colonies per plating. The colonies were subjected to robotic picking and arrayed into wells of 384 well culture dishes. Each well contained 100µl of LBG + CM15 liquid medium. Inoculated 384 well dishes were incubated 16 hours at 37°C, and each well was robotically gridded onto solid LBG + CM15 medium with or without 2% xylose. Gridded plates were incubated 16 hours at 37°C, and then manually scored for arrayed colonies that were growth-compromised in the presence of xylose.

Arrayed colonies that were growth-sensitive on medium containing 2% xylose, yet were able to grow on similar medium lacking xylose, were subjected to further growth sensitivity analysis as follows: Colonies from the plate lacking xylose were manually picked and inoculated into individual wells of a 96 well culture dish containing LBG + CM15, and were incubated for 16 hours at 37°C. These cultures were robotically diluted 1/100 into fresh medium and allowed to incubate for 4 hours at 37°C, after which they were subjected to serial dilutions in a 384 well array and then gridded onto media containing 2% xylose or media lacking xylose. After growth for 16 hours at 37°C, the arrays that resulted on the two media were compared to each other. Clones that grew similarly at all dilutions on both media were scored as a negative and were no longer considered. Clones that grew on xylose medium but failed to grow at the same serial dilution on the non-xylose plate were given a score based on the differential, i.e. should the clone grow at a

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serial dilution of 10<sup>4</sup> or less on the xylose plate and grow at a serial dilution of 10<sup>8</sup> or less on the non-xylose plate, then the corresponding clone received a score of "4" representing the log difference in growth observed.

For Salmonella typhimurium and Klebsiella pneumoniae growth curves were carried out by back diluting cultures 1:200 into fresh media containing 1 mM IPTG or media lacking IPTG and measuring the  $OD_{450}$  every 30 minutes (min). To study the effects of transcriptional induction on solid medium,  $10^2$ ,  $10^3$ ,  $10^4$ ,  $10^5$ ,  $10^6$ ,  $10^7$  and  $10^8$  fold dilutions of overnight cultures were prepared. Aliquots of from 0.5 to 3  $\mu$ l of these dilutions were spotted on selective agar plates with or without 1 mM IPTG. After overnight incubation, the plates were compared to assess the sensitivity of the clones to IPTG.

Nucleic acids involved in proliferation of *Pseudomonas aeruginosa* were identified as follows. Randomly generated fragments of *Pseudomonas aeruginosa* genomic DNA were transcribed from a two-component inducible promoter system. Integrated on the chromosome was the T7 RNA polymerase gene regulated by *lacUV5/lacO* (Brunschwig, E. and Darzins, A. 1992. Gene 111:35-41). On an expression plasmid there was a T7 gene 10 promoter, which is transcribed by T7 RNA polymerase, fused with a *lacO* operator followed by a multiple cloning site. Transcription from this hybrid promoter is inducible by IPTG. Should the genomic DNA downstream of the promoter contain, in an antisense orientation, at least a portion of an mRNA encoding a gene product involved in proliferation, then induction of expression from the promoter will result in detectable inhibition of proliferation.

A shotgun library of *Pseudomonas aeruginosa* genomic fragments was cloned into the vectors pEP5, pEP5S, or other similarly constructed vectors which harbor the T7*lac*O inducible promoter. The vector was linearized at a unique *Sma*I site immediately downstream of the T7*lac*O promoter/operator. The linearized vector was treated with shrimp alkaline phosphatase to prevent reclosure of the linearized ends. Genomic DNA isolated from *Pseudomonas aeruginosa* strain PAO1 was partially digested with DNase I and "blunt-ended" by incubating with T4 DNA polymerase. Random genomic fragments between 200 and 800 base pairs in length were selected by gel purification. The size-selected genomic fragments were added to the linearized and dephosphorylated vector at a molar ratio of 2 to 1, and ligated to form a shotgun library.

The ligated products were transformed into electrocompetent E. coli strain XL1-Blue MRF (Stratagene) and plated on LB medium with carbenicillin at 100 µg/ml or Streptomycin 100 µg/ml. Resulting colonies numbering 5 x  $10^5$  or greater were scraped and combined, and were then subjected to plasmid purification.

The purified library was then transformed into electrocompetent *Pseudomonas aeruginosa* strain PAO1. Resulting transformants were plated on LB agar with carbenicillin at  $100 \,\mu\text{g/ml}$  or Streptomycin  $40 \,\mu\text{g/ml}$  in order to generate  $100 \,\text{to} \,150$  platings at  $500 \,\text{colonies}$  per plating. The colonies were subjected to robotic picking and arrayed into wells of 384 well culture dishes. Each well contained  $100 \,\mu\text{l}$  of LB + CB  $100 \,\text{or}$  Streptomycin  $40 \,\text{liquid}$  medium. Inoculated 384 well

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dishes were incubated 16 hours at room temperature, and each well was robotically gridded onto solid LB + CB100 or Streptomycin 40 medium with or without 1 mM IPTG. Gridded plates were incubated 16 hours at 37°C, and then manually scored for arrayed colonies that were growth-compromised in the presence of IPTG.

Arrayed colonies that were growth-sensitive on medium containing 1 mM IPTG, yet were able to grow on similar medium lacking IPTG, were subjected to further growth sensitivity analysis as follows: Colonies from the plate lacking IPTG were manually picked and inoculated into individual wells of a 96 well culture dish containing LB + CB100 or Streptomycin 40, and were incubated for 16 hours at 30°C. These cultures were robotically diluted 1/100 into fresh medium and allowed to incubate for 4 hours at 37°C, after which they were subjected to serial dilutions in a 384 well array and then gridded onto media with and without 1 mM IPTG. After growth for 16 hours at 37°C, the arrays of serially diluted spots that resulted were compared between the two media. Clones that grew similarly at all dilutions on both media were scored as a negative and were no longer considered. Clones that grew on IPTG medium but failed to grow at the same serial dilution on the non-IPTG plate were given a score based on the differential, i.e. should the clone grow at a serial dilution of 10<sup>4</sup> or less on the IPTG plate and grow at a serial dilution of 10<sup>8</sup> or less on the IPTG plate, then the corresponding clone received a score of "4" representing the log difference in growth observed.

Following the identification of those vectors that, upon induction, negatively impacted *Pseudomonas aeruginosa* growth or proliferation, the inserts or nucleic acid fragments contained in those vectors were isolated for subsequent characterization. Vectors of interest were subjected to nucleic acid sequence determination.

Nucleic acids involved in proliferation of *E. faecalis* were identified as follows. Randomly generated fragments of genomic DNA were expressed from the vectors pEPEF3 or pEPEF14, which contain the CP25 or P59 promoter, respectively, regulated by the xyl operator/repressor. These plasmids as well as other vectors useful for the expression of nucleic acids in *Enterococcus faecalis* and other Gram positive organisms are described in U.S. Patent Application Serial Number 10/032,393, filed December 21, 2001, the disclosure or which is incorportated herein by reference in its entirety. Should the genomic DNA downstream of the promoter contain, in an antisense orientation, at least a portion of a mRNA encoding a gene product involved in proliferation, then induction of expression from the promoter will result in detectable inhibition of proliferation.

A shotgun library of *E. faecalis* genomic fragments was cloned into the vector pEPEF3 or pEPEF14, which harbor xylose inducible promoters. The vector was linearized at a unique *SmaI* site immediately downstream of the promoter/operator. The linearized vector was treated with alkaline phosphatase to prevent reclosure of the linearized ends. Genomic DNA isolated from *E. faecalis* strain OG1RF was partially digested with DNase I and "blunt-ended" by incubating with T4 DNA polymerase. Random genomic fragments between 200 and 800 base pairs in length were

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selected by gel purification. The size-selected genomic fragments were added to the linearized and dephosphorylated vector at a molar ratio of 2 to 1, and ligated to form a shotgun library.

The ligated products were transformed into electrocompetent E. coli strain TOP10 cells (Invitrogen) and plated on LB medium with erythromycin (Erm) at 150  $\mu$ g/ml. Resulting colonies numbering 5 x  $10^5$  or greater were scraped and combined, and were then subjected to plasmid purification.

The purified library was then transformed into electrocompetent E. faecalis strain OG1RF. Resulting transformants were plated on Todd-Hewitt (TH) agar with erythromycin at  $10 \mu g/ml$  in order to generate 100 to 150 platings at 500 colonies per plating. The colonies were subjected to robotic picking and arrayed into wells of 384 well culture dishes. Each well contained 100  $\mu$ l of THB + Erm 10  $\mu$ g/ml. Inoculated 384 well dishes were incubated 16 hours at room temperature, and each well was robotically gridded onto solid TH agar + Erm with or without 5% xylose. Gridded plates were incubated 16 hours at 37°C, and then manually scored for arrayed colonies that were growth-compromised in the presence of xylose.

Arrayed colonies that were growth-sensitive on medium containing 5% xylose, yet were able to grow on similar medium lacking xylose, were subjected to further growth sensitivity analysis. Colonies from the plate lacking xylose were manually picked and inoculated into individual wells of a 96 well culture dish containing THB + Erm 10, and were incubated for 16 hours at 30°C. These cultures were robotically diluted 1/100 into fresh medium and allowed to incubate for 4 hours at 37°C, after which they were subjected to serial dilution on plates containing 5% xylose or plates lacking xylose. After growth for 16 hours at 37°C, the arrays of serially diluted spots that resulted were compared between the two media. Colonies that grew similarly on both media were scored as a negative and corresponding colonies were no longer considered. Colonies on xylose medium that failed to grow to the same serial dilution compared to those on the non-xylose plate were given a score based on the differential. For example, colonies on xylose medium that only grow to a serial dilution of -4 while they were able to grow to -8 on the non-xylose plate, then the corresponding transformant colony received a score of "4" representing the log difference in growth observed.

Following the identification of those vectors that, upon induction, negatively impacted E. faecalis growth or proliferation, the inserts or nucleic acid fragments contained in those expression vectors were isolated for subsequent characterization. The inserts in the vectors of interest were subjected to nucleotide sequence determination.

It will be appreciated that other restriction enzymes and other endonucleases or methodologies may be used to generate random genomic fragments. In addition, random genomic fragments may be generated by mechanical shearing. Sonication and nebulization are two such techniques commonly used for mechanical shearing of DNA.

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## **EXAMPLE 2**

Nucleotide Sequence Determination of Identified Clones Transribing Nucleic Acid Fragments with

Detrimental Effects on Escherichia coli, Staphylococcus aureus, Enterococcus faecalis, Klebsiella

pneumoniae, Pseudomonas aeruginosa or Salmonella typhimurium Proliferation

Plasmids from clones that received a dilution plating score of "2" or greater were isolated to obtain the genomic DNA insert responsible for growth inhibition as follows.

The nucleotide sequences of the nucleic acid sequences which inhibited the growth of *Escherichia coli* were determined using plasmid DNA isolated using QIAPREP (Qiagen, Valencia, CA) and methods supplied by the manufacturer. The primers used for sequencing the inserts were 5'-TGTTTATCAGACCGCTT - 3' (SEQ ID NO: 78586) and 5'-ACAATTTCACACAGCCTC - 3' (SEQ ID NO: 78587). These sequences flank the polylinker in pLEX5BA.

The nucleotide sequences of the nucleic acid sequences which inhibited the growth of *Staphylococcus aureus* were determined as follows. *Staphylococcus aureus* were grown in standard laboratory media (LB or TB with 15 ug/ml Chloramphenicol to select for the plasmid). Growth was carried out at 37°C overnight in culture tubes or 2 ml deep well microtiter plates.

Lysis of *Staphylococcus aureus* was performed as follows. Cultures (2-5 ml) were centrifuged and the cell pellets resuspended in 1.5 mg/ml solution of lysostaphin (20  $\mu$ l/ml of original culture) followed by addition of 250  $\mu$ l of resuspension buffer (Qiagen). Alternatively, cell pellets were resuspended directly in 250  $\mu$ l of resuspension buffer (Qiagen) to which 5-20  $\mu$ l of a 1 mg/ml lysostaphin solution were added.

DNA was isolated using Qiagen miniprep kits or Wizard (Qiagen) miniprep kits according to the instructions provided by the manufacturer.

The genomic DNA inserts were amplified from the purified plasmids by PCR as follows.

1 μl of Qiagen purified plasmid was put into a total reaction volume of 25 μl Qiagen Hot Start PCR mix. For *Staphylococcus aureus*, the following primers were used in the PCR reaction: pXylT5F: CAGCAGTCTGAGTTATAAAATAG (SEQ ID NO: 78588)

LexL TGTTTTATCAGACCGCTT (SEQ ID NO: 78589)

Similar methods were conducted for *Salmonella typhimurium* and *Klebsiella pneumoniae*. For *Salmonella typhimurium* and *Klebsiella pneumoniae* the following primers were used:

30 5' - TGTTTTATCAGACCGCTT - 3' (SEQ ID NO: 78589) and

5'-ACAATTTCACACAGCCTC-3' (SEQ ID NO: 78587)

PCR was carried out in a PE GenAmp with the following cycle times:

Step 1. 95° C 15 min

Step 2. 94° C 45 sec

35 Step 3. 54° C 45 sec

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Step 4. 72° C 1 minute

Step 5. Return to step 2, 29 times

Step 6. 72° C 10 minutes

Step 7. 4° C hold

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The PCR products were cleaned using Qiagen Qiaquick PCR plates according to the manufacturer's instructions.

For *Pseudomonas aeruginosa*, plasmids from transformant colonies that received a dilution plating score of "2" or greater were isolated to obtain the genomic DNA insert responsible for growth inhibition as follows. *Pseudomonas aeruginosa* were grown in standard laboratory media (LB with carbenicillin at 100 µg/ml or Streptomycin 40 µg/ml to select for the plasmid). Growth was carried out at 30°C overnight in 100 ul culture wells in microtiter plates. To amplify insert DNA 2 ul of culture were placed into 25 ul Qiagen Hot Start PCR mix. PCR reactions were in 96 well microtiter plates. For plasmid pEP5S the following primers were used in the PCR reaction:

T7L1+: GTCGGCGATATAGGCGCCAGCAACCG (SEQ ID NO: 78590)

pStrA3: ATAATCGAGCATGAGTATCATACG (SEQ ID NO: 78591)

PCR was carried out in a PE GenAmp with the following cycle times:

Step 1. 95° C 15 min

15 Step 2. 94° C 45 sec

Step 3. 54° C 45 sec

Step 4. 72° C 1 minute

Step 5. Return to step 2, 29 times

Step 6. 72° C 10 minutes

20 Step 7. 4° C hold

The PCR products were cleaned using Qiagen Qiaquick PCR plates according to the manufacturer's instructions.

The purified PCR products were then directly cycle sequenced with Qiagen Hot Start PCR mix. The following primers were used in the sequencing reaction:

25 T7/L2: ATGCGTCCGGCGTAGAGGAT (SEQ ID NO: 78592)

PCR was carried out in a PE GenAmp with the following cycle times:

Step 1. 94° C 15 min

Step 2. 96° C 10 sec

Step 3. 50° C 5 sec

30 Step 4. 60 C 4 min

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Step 5. Return to step 2, 24 times

Step 6. 4° C hold

The PCR products were cleaned using Qiagen Qiaquick PCR plates according to the manufacturer's instructions.

For *E. faecalis*, plasmids from transformant colonies that received a dilution plating score of "2" or greater were isolated to obtain the genomic DNA insert responsible for growth inhibition as follows. *E. faecalis* were grown in THB 10 µg/ml Erm at 30°C overnight in 100 ul culture wells

in microtiter plates. To amplify insert DNA 2 ul of culture were placed into 25  $\mu$ l Qiagen Hot Start PCR mix. PCR reactions were in 96 well microtiter plates. The following primers were used in the PCR reaction:

pXyIT5: CAGCAGTCTGAGTTATAAAATAG (SEQ ID NO: 78588) and the

5 pEP/pAK1 primer.

PCR was carried out in a PE GenAmp with the following cycle times:

Step 1. 95° C 15 min

Step 2. 94° C 45 sec

Step 3. 54° C 45 sec

10 Step 4. 72° C 1 minute

Step 5. Return to step 2, 29 times

Step 6. 72° C 10 minutes

Step 7. 4° C hold

The PCR products were cleaned using Qiagen Qiaquick PCR plates according to the manufacturer's instructions.

The purified PCR products were then directly cycle sequenced with Qiagen Hot Start PCR mix. The following primers were used in the PCR reaction:

pXyIT5: CAGCAGTCTGAGTTATAAAATAG (SEQ ID NO: 78588)

PCR was carried out in a PE GenAmp with the following cycle times:

20 Step 1. 94° C 15 min

Step 2. 96° C 10 sec

Step 3. 50° C 5 sec

Step 4. 60° C 4 min

Step 5. Return to step 2, 24 times

25 Step 6. 4° C hold

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The PCR products were cleaned using Qiagen Qiaquick PCR plates according to the manufacturer's instructions.

The amplified genomic DNA inserts from each of the above procedures were subjected to automated sequencing. Sequence identification numbers (SEQ ID NOs) and clone names for the identified inserts are listed in Table IA and discussed below.

## TABLE IA

| Clone Name | S1M10000025G06 | S1M10000025H06 | S1M10000025H07 | S1M10000025A08 | S1M10000025D08 | S1M10000025F08 | S1M10000025H08 | S1M10000025A09 | S1M10000025B09 | S1M10000025C09 | S1M10000025D09 | S1M10000025E09 | S1M10000025F09 | S1M10000025A10 | S1M10000025C10 | S1M10000025D10 | S1M10000025F10 | S1M10000025G10 | S1M10000025H10 | S1M10000025C11 | S1M10000025E11 | S1M10000025B12 | S1M10000025F12 | S1M10000026C01 | S1M10000026E01 | S1M10000026F01 | S1M10000026G01 | S1M10000026H01 | S1M10000026A02 | S1M10000026B02 | S1M10000026H02 | SIM10000026B03 | SIMIOUUUUZOFUS |
|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| SeqID      | 4969           | 4970           | 4971           | 4972           | 4973           | 4974           | 4975           | 4976           | 4977           | 4978           | 4979           | 4980           | 4981           | 4982           | 4983           | 4984           | 4985           | 4986           | 4987           | 4988           | 4989           | 4990           | 4991           | 4992           | 4993           | 4994           | 4995           | 4996           | 4997           | 4998           | 4999           | 5000           | 2001           |
| Clone Name | P1M10000105C04 | P1M10000105D04 | P1M10000105C05 | P1M10000105B06 | P1M10000105C08 | P1M10000105H08 | P1M10000105D09 | P1M10000110E01 | P1M10000110F01 | P1M10000110G01 | P1M10000110B02 | P1M10000110B03 | P1M10000110F03 | P1M10000110G03 | P1M10000110D04 | P1M10000110F04 | P1M10000110B05 | P1M10000110E05 | P1M10000110B07 | P1M10000110B08 | P1M10000110F08 | P1M10000110A09 | P1M10000110E09 | P1M10000110F09 | P1M10000100F01 | P1M10000098A02 | P1M10000098B02 | P1M10000098A03 | P1M10000098D03 | P1M10000098E04 | P1M10000098G04 | P1M10000098A05 | P1M10000098C05 |
| SeqID      | 3727           | 3728           | 3729           | 3730           | 3731           | 3732           | 3733           | 3734           | 3735           | 3736           | 3737           | 3738           | 3739           | 3740           | 3741           | 3742           | 3743           | 3744           | 3745           | 3746           | 3747           | 3748           | 3749           | 3750           | 3751           | 3752           | 3753           | 3754           | 3755           | 3756           | 3757           | 3758           | 3759           |
| Clone Name | E1M10000260G02 | E1M10000260F04 | E1M10000260A05 | E1M10000260C05 | E1M10000260E05 | E1M10000260C07 | E1M10000260G07 | E1M10000260B08 | E1M10000260D08 | E1M10000260E08 | E1M10000260E09 | E1M10000260C10 | E1M10000260D10 | E1M10000260E10 | E1M10000260G10 | E1M10000260H10 | E1M10000260H11 | E1M10000260B12 | E1M10000260D12 | E1M10000260G12 | E1M10000261F01 | E1M10000261B02 | E1M10000261H02 | E1M10000261G04 | E1M10000261H05 | E1M10000261G06 | E1M10000261H06 | E1M10000261D08 | E1M10000261F08 | E1M10000261C09 | E1M10000261H09 | E1M10000261E10 | E1M10000262E01 |
| SeqID      | 2485           | 2486           | 2487           | 2488           | 2489           | 2490           | 2491           | 2492           | 2493           | 2494           | 2495           | 2496           | 2497           | 2498           | 2499           | 2500           | 2501           | 2502           | 2503           | 2504           | 2505           | 2506           | 2507           | 2508           | 2509           | 2510           | 2511           | 2512           | 2513           | 2514           | 2515           | 2516           | 2517           |
| Clone Name | P33-1.C22      | X3S107-17      | P35-7          | X3S118-9       | X3S163-1       | X3S204-7       | X3S177-4       | P342-3         | SC21.1         | SC17.1         | SC13.1         | MC9.6          | Z60-P16        | Z86-I21        | E1M10000109A02 | E1M10000109A11 | E1M10000101F05 | E1M10000101D06 | E1M10000101A07 | E1M10000101H07 | E1M10000101H09 | E1M10000101C12 | E1M10000103B04 | E1M10000103D11 | E1M10000110G01 | E1M10000110H01 | E1M10000110E09 | E1M10000110A12 | E1M10000112F05 | E1M10000113F02 | E1M10000113A11 | E1M10000111C03 | E1M10000111E04 |
| SeqID      | 1243           | 1244           | 1245           | 1246           | 1247           | 1248           | 1249           | 1250           | 1251           | 1252           | 1253           | 1254           | 1255           | 1256           | 1257           | 1258           | 1259           | 1260           | 1261           | 1262           | 1263           | 1264           | 1265           | 1266           | 1267           | 1268           | 1269           | 1270           | 1271           | 1272           | 1273           | 1274           | 1275           |
| Clone Name | E3M10000001B01 | E3M10000001A02 | E3M10000001B02 | E3M10000001C02 | E3M10000001D02 | E3M10000001E02 | F3M10000001F02 | E3M10000001G02 | E3M10000001H02 | E3M10000001E03 | E3M10000001G03 | E3M10000001H03 | E3M10000001D04 | E3M10000001E04 | E3M10000001F04 | E3M10000001G04 | E3M10000001H04 | E3M10000001B05 | E3M10000001D05 | E3M10000001G05 | E3M10000001A06 | E3M10000001F06 | E3M10000001B08 | E3M10000001E08 | E3M10000001C09 | E3M10000001D09 | E3M10000001E09 | E3M10000001B10 | E3M10000004D01 | E3M10000004G01 | E3M10000004D02 | E3M10000004C03 | E3M10000004A04 |
| SedID      | 1-             | 7              | 3              | 4              | 5              | 9              | 1              | - ∞            | 6              | 10             | 11             | 12             | 13             | 14             | 15             | 16             | 17             | 18             | 19             | 20             | 21             | 22             | 23             | 24             | 25             | 26             | 27             | 28             | 29             | 30             | 31             | 32             | 33             |

| Clone Name | S1M10000026G03 | S11M10000020H03 | S1M10000026A04 | S1M10000026D04 | S1M10000026F04 | S1M10000026G04 | S1M10000026H04 | S1M10000026A05 | S1M10000026B05 | S1M10000026D05 | S1M10000026F05 | S1M10000026G05 | S1M10000026405 | S1M10000026A06 | S1M10000026B06  | S1M10000026C06 | S1M10000026D06 | S1M10000026F06 | S1M10000026G06 | S1M10000026A07 | S1M10000026B07 | S1M10000026C07 | S1M10000026D07 | S1M10000026F07 | S1M10000026G07 | S1M10000026H07 | S1M10000026A08 | S1M10000026C08 | S1M10000026D08 | S1M10000026F08 | S1M10000026G08 | S1M10000026A09 | S1M10000026E09 | S1M10000026G09 | S1M10000026H09 | SIMIOOOOGGAIO  |
|------------|----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| SeqID      | 5002           | 5003            | 5004           | 5005           | 2006           | 2007           | 2008           | 2009           | 5010           | 5011           | 5012           | 5013           | 5014           | 5015           | 5016            | 5017           | 5018           | 5019           | 5020           | 5021           | 5022           | 5023           | 5024           | 5025           | 5026           | 5027           | 5028           | 5029           | 5030           | 5031           | 5032           | 5033           | 5034           | 5035           | 5036           | 2037           |
| Clone Name | P1M10000098G06 | P1M10000098H06  | P1M10000098C07 | P1M10000098F07 | P1M10000098A08 | P1M10000098G08 | P1M10000098H09 | P1M10000098B11 | P1M10000098C12 | P1M10000099D01 | P1M10000099G03 | P1M10000099A09 | P1M10000099A10 | P1M10000099E10 | P1M100000099F10 | P1M10000099D11 | P1M10000106D02 | P1M10000106F03 | P1M10000106H03 | P1M10000106F04 | P1M10000106D05 | P1M10000106E07 | P1M10000107E02 | P1M10000107H02 | P1M10000107C03 | P1M10000107A04 | P1M10000107C04 | P1M10000107C09 | P1M10000107C10 | P1M10000107D10 | P1M10000107H10 | P1M10000108C01 | P1M10000108A02 | P1M10000108B02 | P1M10000108A03 | P1M10000108D04 |
| SeqID      | 3760           | 3761            | 3762           | 3763           | 3764           | 3765           | 3766           | 3767           | 3768           | 3769           | 3770           | 3771           | 3772           | 3773           | 3774            | 3775           | 3776           | 3777           | 3778           | 3779           | 3780           | 3781           | 3782           | 3783           | 3784           | 3785           | 3786           | 3787           | 3788           | 3789           | 3790           | 3791           | 3792           | 3793           | 3794           | 3795           |
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| SeqID      | 1276           | 1277            | 1278           | 1279           | 1280           | 1281           | 1282           | 1283           | 1284           | 1285           | 1286           | 1287           | 1288           | 1289           | 1290            | 1291           | 1292           | 1293           | 1294           | 1295           | 1296           | 1297           | 1298           | 1299           | 1300           | 1301           | 1302           | 1303           | 1304           | 1305           | 1306           | 1307           | 1308           | 1309           | 1310           | 1311           |
| Clone Name | E3M10000004F08 | E3M10000004D10  | E3M10000004F10 | E3M10000004E11 | E3M10000004H11 | E3M10000005B01 |                |                |                |                |                | E3M10000005E03 | E3M10000005C04 | E3MI0000005D04 |                 |                |                |                | -              |                |                | E3M10000005F10 |                |                | E3M10000006B03 | E3M10000006D03 | E3M10000006F04 |                | E3M10000006H09 |                |                |                | E3M10000007F01 | E3M10000007G01 | E3M10000007A02 | E3M10000007B02 |
| SegID      | 34             | 35              | 36             | 37             | 38             | 39             | 40             | 41             | 42             | 43             | 44             | 45             | 46             | 47             | 48              | 49             | 50             | 51             | 52             | 53             | 54             | 55             | 56             | 57             | 58             | 59             | 09             | 61             | 62             | 63             | 64             | 65             | 99             | <i>L</i> 9     | 89             | 69             |

| Clone Name | S1M10000026B10 | SIM10000026D10 | S1M10000026E10 | S1M10000026F10 | S1M10000026G10 | S1M10000026H10 | S1M10000026A11 | S1M10000026B11 | S1M10000026C11 | S1M10000026E11 | S1M10000026B12 | S1M10000026C12 | SIM10000026D12 | SIM10000026E12 | S1M10000026F12 | S1M10000026G12 | S1M10000027G01 | S1M10000027C02 | S1M10000027D02 | S1M10000027E02 | S1M1000002/F02 | S1M1000002/H02 | S1M1000002/D03 | S1M1000002/E03 | SIM1000002/G03 | S1M1000002/A04 | S1M1000002/C04 | S1M1000002/G04 | SIM1000002/H04 | SIM1000002/A05  | S1M1000002/C05 | SIMIO00002/D05 | SIM1000002/E05 | S1M1000002/F05 | S1M1000002/G05 | I COTT / POODOOT INTO |
|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|----------------|-----------------------|
| SeqID      | 5038           | 5039           | 5040           | 5041           | 5042           | 5043           | 5044           | 5045           | 5046           | 5047           | 5048           | 5049           | 2050           | 5051           | 5052           | 5053           | 5054           | 5055           | 2056           | 5057           | 5058           | 5059           | 2060           | 5061           | 5062           | 5063           | 5064           | 5065           | 2066           | 2067            | 5068           | 5069           | 5070           | 5071           | 5072           | le/ne                 |
| Clone Name | P1M10000108G04 | P1M10000108E05 | P1M10000108F05 | P1M10000108F06 | P1M10000108G06 | P1M10000109A02 | P1M10000109C03 | P1M10000109E03 | P1M10000109D04 | P1M10000109A05 | P1M10000109B08 | P1M10000109H09 | P1M10000109E10 | P1M10000109F10 | P1M10000109E11 | P1M10000109B12 | S4M10000001C01 | S4M10000002G04 | S4M10000002B06 | S4M10000002G08 | S4M10000002B09 | S4M10000019H06 | S4M10000008H10 | S4M10000009E03 | S4M10000009C06 | S4M10000009E07 | S4M10000000G08 | S4M10000009B11 | S4M10000009F11 | S4M100000009G11 | S4M10000010F04 | S4M10000010H04 | S4M10000010B05 | S4M10000010D07 | S4M10000010D08 | S4M10000010B09        |
| SeqID      | 3796           | 3797           | 3798           | 3799           | 3800           | 3801           | 3802           | 3803           | 3804           | 3805           | 3806           | 3807           | 3808           | 3809           | 3810           | 3811           | 3812           | 3813           | 3814           | 3815           | 3816           | 3817           | 3818           | 3819           | 3820           | 3821           | 3822           | 3823           | 3824           | 3825            | 3826           | 3827           | 3828           | 3829           | 3830           | 3831                  |
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| Clone Name | E1M10000118G06 | E1M10000119D02 | E1M10000119D03 | E1M10000119A04 | E1M10000131H01 | E1M10000131F04 | E1M10000131C06 | E1M10000131B07 | E1M10000131C07 | E1M10000131A10 | E1M10000131G10 | E1M10000135B02 | E1M10000132C01 | E1M10000132F02 | E1M10000132H04 | E1M10000132G08 | E1M10000133A06 | E1M10000133B08 | E1M10000133D09 | E1M10000144B01 | E1M10000144C02 | E1M10000144E03 | E1M10000144F03 | E1M10000144B06 | E1M10000144G06 | E1M10000144G07 | E1M10000144A08 | E1M10000144C10 | E1M10000145E01 | E1M10000146H01  | E1M10000146D02 | E1M10000146E05 | E1M10000124E02 | E1M10000124G03 | E1M10000124G04 | E1M10000124C05        |
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| SeaID      | 70             | 71             | 72             | 73             | 74             | 75             | 92             | 77             | 78             | 9/             | <u> </u>       | 81             | 82             | 83             | 84             | 85             | 98             | 87             | 8              | 89             | 6              | 91             | 92             | 93             | 94             | 95             | 96             | . 97           | 86             | 66              | 100            | 101            | 102            | 103            | 104            | 105                   |

| Clone Name | S1M10000027B06 | S1M1000002/C00 | S1M1000002/D00 | S1M1000002/E00 | S1M1000002/F00 | S1M1000002/G06 | S1M10000027H06 | S1M10000027B07 | S1M10000027D07 | S1M10000027E07 | S1M10000027G07 | S1M1000002/H0/ | SIMI1000002/A08 | SIM1000002/B08 | S1M1000002/C08 | S1M1000002/D08 | SIM1000002/E08 | S1M1000002/F08 | S1M10000027G08 | S1M10000027H08 | S1M1000002/B09 | S1M1000002/C09 | S1M1000002/D09 | S1M1000002/E09 | S1M1000002/F09 | SIM1000002/G09 | S1M1000002/E09 | S1M1000002/D10 | SIM1000002/H10 | SIM1000002/A11 | SIM1000002/B11 | SIMIO00002/D11 | SIM1000002/E11 | S1M1000002/G11 | S1M100000271111<br>S1M10000028B01 |                |
|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------------------------|----------------|
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| Clone Name | S4M10000010C09 | S4M10000010D09 | S4M10000010D10 | S4M10000011F05 | S4M10000011D08 | S4M10000011A09 | S4M10000011F09 | S4M10000011E10 | S4M10000011F10 | S4M10000011D11 | S4M10000012H03 | S4M10000012B06 | S4M10000012B12  | S4M10000013D02 | S4M10000013H02 | S4M10000014H02 | S4M10000014B05 | S4M10000014D07 | S4M10000015E09 | S4M10000015B11 | S4M10000016A02 | S4M10000020F08 | S4M10000021E07 | S4M10000022B02 | S4M10000022D04 | S4M10000022B05 | S4M10000022G07 | S4M10000022D12 | S4M10000022E12 | S4M10000024G01 | S4M10000024G04 | S4M10000024C06 | S4M10000024F08 | S4M10000024G09 | S4M10000024C11                    | 1              |
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| Clone Name | E1M10000267G09 | E1M10000267H09 | E1M10000267A10 | E1M10000267E10 | E1M10000267C11 | E1M10000267E11 | E1M10000267B12 | E1M10000267E12 | E1M10000268F03 | E1M10000268D04 | E1M10000268E04 | E1M10000268F06 | E1M10000268E07  | E1M10000268A08 | E1M10000268B08 | E1M10000268D08 | E1M10000268G08 | E1M10000268B09 | E1M10000268E09 | E1M10000268F09 | E1M10000268G09 | E1M10000268E10 | E1M10000268A11 | E1M10000268G11 | E1M10000268G12 | E1M10000269D01 | E1M10000269B02 | E1M10000269D03 | E1M10000269D04 | E1M10000269H04 | E1M10000269B05 | E1M10000269D05 | E1M10000269H05 | E1M10000269A06 | E1M10000269E07                    | EIMIO000269F07 |
| SeqID      | 2590           | 2591           | 2592           | 2593           | 2594           | 2595           | 2596           | 2597           | 2598           | 2599           | 2600           | 2601           | 2602            | 2603           | 2604           | 2605           | 2606           | 2607           | 2608           | 2609           | 2610           | 2611           | 2612           | 2613           | 2614           | 2615           | 2616           | 2617           | 2618           | 2619           | 2620           | 2621           | 2622           | 2623           | 2624                              | 5797           |
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| SeqID      | 1348           | 1349           | 1350           | 1351           | 1352           | 1353           | 1354           | 1355           | 1356           | 1357           | 1358           | 1359           | 1360            | 1361           | 1362           | 1363           | 1364           | 1365           | 1366           | 1367           | 1368           | 1369           | 1370           | 1371           | 1372           | 1373           | 1374           | 1375           | 1376           | 1377           | 1378           | 1379           | 1380           | 1381           | 1382                              | 1383           |
| Clone Name | E3M10000012B01 | E3M10000012C01 | E3M10000012B02 | E3M10000012G02 | E3M10000012F05 | E3M1000012F06  | E3M10000012B07 | E3M1000012E07  | E3M1000012G07  | E3M1000012B08  | E3M10000012D10 | E3M10000012F10 | E3M10000013D02  | E3M10000013E02 | E3M10000013H03 | E3M10000013C05 | E3M10000013F05 | E3M10000013H05 | E3M10000013A06 | E3M10000013A07 | E3M10000013D08 | E3M10000013E08 | E3M10000013D10 | E3M10000013G10 | E3M10000014G09 | E3M10000014B12 | E3M10000014E12 | E3M10000015B04 | E3M10000015B12 | E3M10000015E12 | E3M10000016A03 | E3M10000016D03 | E3M10000016A04 | E3M10000016G05 | E3M10000016H05                    | E3M10000016F06 |
| SeaTD      | 106            | 107            | 108            | 109            | 110            | 111            | 112            | 113            | 114            | 115            | 116            | 117            | 118             | 119            | 120            | 121            | 122            | 123            | 124            | 125            | 126            | 127            | 128            | 129            | 130            | 131            | 132            | 133            | 134            | 135            | 136            | 137            | 138            | 139            | 140                               | 141            |

| Clone Name | S1M10000028E01 | S1M10000026F01 | S1M10000028G01 | SIM10000028A02 | S1M10000028B02 | S1M10000028C02 | S1M10000028G02 | S1M10000028B03    | S1M10000028D03 | S1M10000028E03 | S1M10000028F03 | S1M10000028G03 | S1M10000028H05 | S1M10000028A04 | S1M10000028B04 | S1M10000028C04 | S1M10000028D04 | S1M10000028E04 | S1M10000028F04 | S1M10000028G04 | S1M10000028.505 | S1M10000028C05 | S1M1000001MIS  | S1M10000028F05 | SIMI0000028G03 | CUERSZ000001MIC | S1M10000028A00 | S1M10000028506 | S1M10000028C06 | S1M10000028D06 | S1M10000028F06 | S1M10000028G06 | S1M10000028D07 |                |                | loveozoovoumis |
|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| SeqID      | 5110           | 5111           | 5112           | 5113           | 5114           | 5115           | 5116           | 5117              | 5118           | 5119           | 5120           | 5121           | 5122           | 5123           | 5124           | 5125           | 5126           | 5127           | 5128           | 5129           | 5130            | 5131           | 5132           | 5133           | 5134           | 5135            | 5136           | 5137           | 5138           | 5139           | 5140           | 5141           | 5142           | 5143           | 5144           | 5145           |
| Clone Name | S4M10000025E05 | S4M10000025H07 | S4M10000025A11 | S4M10000025F12 | S4M10000026C01 | S4M10000026E03 | S4M10000026D04 | S4M10000026B10    | S4M10000026E12 | S4M10000027E02 | S4M10000027C10 | S4M10000029B12 | S4M10000029D12 | S4M10000030F06 | S4M10000030F07 | S4M10000032F01 | S4M10000032G01 | S4M10000032F03 | S4M10000034A02 | S4M10000034C05 | S4M10000034H05  | S4M10000034A06 | S4M10000034A09 | S4M10000034H09 | S4M10000035B01 | S4M10000035D01  | S4M10000035F02 | S4M10000035E03 | S4M10000035B06 | S4M10000035A09 | S4M10000036F06 | S4M10000036B09 | S4M10000036H11 | S4M10000037A03 | S4M10000037A08 | S4M10000037H09 |
| SeqID      | 3868           | 3869           | 3870           | 3871           | 3872           | 3873           | 3874           | 3875              | 3876           | 3877           | 3878           | 3879           | 3880           | 3881           | 3882           | 3883           | 3884           | 3885           | 3886           | 3887           | 3888            | 3889           | 3890           | 3891           | 3892           | 3893            | 3894           | 3895           | 3896           | 3897           | 3898           | 3899           | 3900           | 3901           | 3902           | 3903           |
| Clone Name | E1M10000269E10 | E1M10000269D11 | E1M10000269C12 | E1M10000269G12 | E1M10000271F02 | E1M10000271H02 | E1M10000271E03 | F1M10000271G03    | F1M10000271B04 | E1M10000271G04 | E1M10000271B05 | E1M10000271E05 | E1M10000271C07 | E1M10000271G07 | E1M10000271G10 | E1M10000271F11 | E1M10000271E12 | E1M10000271F12 | E1M10000272F02 | E1M10000272G03 | E1M10000272A04  | E1M10000272F05 | E1M10000272A06 | E1M10000272B06 | E1M10000272H07 | E1M10000272B08  | E1M10000272C08 | E1M10000272D08 | E1M10000272G08 | E1M10000272H08 | E1M10000272C09 | E1M10000272D09 | E1M10000272G09 | E1M10000272H09 | E1M10000273E01 | E1M10000273D02 |
| SeqID      | 2626           | 2627           | 2628           | 2629           | 2630           | 2631           | 2632           | 2633              | 2632           | 2635           | 2636           | 2637           | 2638           | 2639           | 2640           | 2641           | 2642           | 2643           | 2644           | 2645           | 2646            | 2647           | 2648           | 2649           | 2650           | 2651            | 2652           | 2653           | 2654           | 2655           | 2656           | 2657           | 2658           | 2659           | 2660           | 2661           |
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|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|
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| SeqID (    | 3904           | 3905           | 3906           | 3907           | 3908           | 3909           | 3910           | 3911           | 3912           | 3913           | 3914           | 3915           | 3916           | 3917           | 3918           | 3919           | 3920           | 3921           | 3922           | 3923           | 3924           | 3925           | 3926           | 3927           | 3928           | 3929           | 3930           | 3931           | 3932           | 3933           | 3934           | 3935           | 3936           | 3937            | 3938           | 3939           |
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| SeaTD      | 178            | 179            | 180            | 181            | 182            | 183            | 184            | 185            | 186            | 187            | 188            | 189            | 190            | 191            | 192            | 193            | 194            | 195            | 196            | 197            | 198            | 199            | 200            | 201            | 202            | 203            | 204            | 205            | 206            | 207            | 208            | 209            | 210            | 211             | 212            | 213            |

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| SeqID      | 5182           | 5183           | 5184           | 5185           | 2186           | 5187           | 5188           | 5189           | 5190           | 5191           | 5192           | 5193           | 5194           | 5195           | 5196           | 5197           | 5198           | 5199           | 5200           | 5201           | 5202           | 5203           | 5204           | 5205           | 5206           | 5207           | 5208           | 5209           | 5210           | 5211           | 5212           | 5213           | 5214           | 5215           | 5216           | 7411           |
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| Clone Name | E3M10000025D01 | E3M10000025B03 | E3M10000025C04 | E3M10000025F04 | E3M10000025B05 | E3M10000025C05 | E3M10000025A06 | E3M10000025F06 | E3M10000025C07 | E3M10000025E07 | E3M10000025G07 | E3M10000025C08 | E3M10000025E08 | E3M10000025F08 | E3M10000025C09 | E3M10000025F09 | E3M10000025G09 | E3M10000025B10 | E3M10000025D10 | E3M10000025F10 | E3M10000025C11 | E3M10000025E11 | E3M10000025F11 | E3M10000025E12 | E3M10000025F12 | E3M10000027G01 | E3M10000027A02 | E3M10000027C02 | E3M10000027C03 | E3M10000027D03 | E3M10000027H03 | E3M10000027H04 | E3M10000027D05 | E3M10000027A07 | E3M10000027B07 | E3M10000027H07 |
| SeaID      | 214            | 215            | 216            | 217            | 218            | 219            | 220            | 22.1           | 222            | 223            | 224            | 225            | 226            | 227            | 228            | 229            | 230            | 231            | 232            | 233            | 234            | 235            | 236            | 237            | 238            | 239            | 240            | 241            | 242            | 243            | 244            | 245            | 246            | 247            | 248            | 249            |

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| SeqID          | 5218               | 5219               | 5220               | 5221               | 5222               | 5223               | 5224               | 5225               | 5226               | 5227               | 5228               | 5229               | 5230               | 5231               | 5232               | 5233              | 5234               | 5235               | 5236               | 5237               | 5238               | 5239               | 5240               | 5241               | 5242           | 5243               | 5244               | 5245               | 5246               | 5247               | 5248               | 5249               | 5250               | 5251               | 5252           | 5253               |
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| SeqID          | 3976               | 3977               | 3978               | 3979               | 3980               | 3981               | 3982               | 3983               | 3984               | 3985               | 3986               | 3987               | 3988               | 3989               | 3990               | 3991              | 3992               | 3993               | 3994               | 3995               | 3996               | 3997               | 3998               | 3999               | 4000           | 4001               | 4002               | 4003               | 4004               | 4005               | 4006               | 4007               | 4008               | 4009               | 4010           | 4011               |
| Clone Name     | E1M10000312A10     | E1M10000313E01     | E1M10000313F01     | E1M10000313A02     | E1M10000313D02     | E1M10000313H02     | E1M10000313A03     | E1M10000313D03     | E1M10000313G03     | E1M10000313B04     | E1M10000313D04     | E1M10000313B05     | E1M10000313A06     | E1M10000313F06     | E1M10000313A07     | E1M10000313C07    | E1M10000313F07     | E1M10000313G07     | E1M10000313D08     | E1M10000313F08     | E1M10000313F09     | E1M10000313A10     | E1M10000314F01     | E1M10000314B02     | E1M10000314H03 | E1M10000314A04     | E1M10000314H04     | E1M10000314A05     | E1M10000314B05     | E1M10000314G05     | E1M10000314D06     | E1M10000314F06     | E1M10000314G09     | E1M10000314D10     | E1M10000314G10 | E1M10000314C11     |
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| Clone Name     | E1M10000168G02     | E1M10000168A03     | E1M10000168A04     | E1M10000169H02     | E1M10000176C01     | E1M10000176F01     | E1M10000184C01     | E1M10000184G02     | E1M10000184C06     | E1M10000184F08     | E1M10000184G08     | E1M10000184C09     | E1M10000184F09     | E1M10000184F10     | E1M10000184G12     | E1M10000185D01    | E1M10000185A02     | E1M10000185B03     | E1M10000186A02     | E1M10000186F03     | E1M10000186G03     | E1M10000186A04     | E1M10000186A08     | E1M10000186H10     | E1M10000186E11 | E1M10000186G12     | E1M10000187D01     | E1M10000187G04     | E1M10000187D06     | E1M10000187G06     | E1M10000187G09     | E1M10000187A10     | E1M10000187G10     | E1M10000187H10     | E1M10000187F11 | E1M10000187G11     |
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| SeqID        | 430                              | 432            | 433            | 434              | 435              | 436              | 437              | 438              | 439              | 440              | 441              | 442              | 443              | 444              | 445              | 446              | 447              | 448              | 449              | 450              | 451              | 452              | 453              | 454              | 455              | 456              | 457            | 458              | 459              | 460              | 461              | 462              | 463              | 464            | 465              |

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|------------|----------------|----------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|----------------|----------------|----------------|----------------|
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| SeqID          | 574               | 575               | 576               | 577              | 578               | 579              | 580            | 581              | 582              | 583              | 584              | 585              | 586               | 587              | 588              | 589              | 590              | 591              | 592              | 593              | 594              | 595              | 596               | 597              | 598              | 599              | 009              | 601              | 602              | 603              | 604              | 909              | 909              | 209              | 809                              |

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| SeqID      | 1852           | 1853           | 1854           | 1855           | 1856           | 1857           | 1858           | 1859           | 1860           | 1861           | 1862           | 1863           | 1864           | 1865           | 1866           | 1867           | 1868           | 1869           | 1870           | 1871           | 1872           | 1873           | 1874           | 1875           | 1876           | 1877           | 1878           | 1879           | 1880           | 1881           | 1882           | 1883           | 1884           | 1885           | 1886           | 1887           |
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| أيه        | 9              | 9              | 9              | 9              | 9              | 7              | 7              |                |                | ∞              | <u>∞</u>       | <u>~</u>       | ∞              | 6              | <u>6</u>       | <u>0</u>       | <u>6</u>       | 0              | 0              | 0              | 0              | 0              |                | <u>.</u>       |                |                |                |                | 7              | 7              | 7              | _              |                | <del>_</del>   |                | 1              |
|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
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|            | SIM            | S1M            | S1M            | S1M            | S1M            | S1M            | SIM            | S1M            | S1M            | S1M            | S1M            | S1IN           | S1M            | S1M            | S1M            | SIM            | S1M            | S1M            | SIM            | SIM            | SIN            | S1M            | S1M            | S1M            | S1M            | SIM            | S1IN           | S1M            | S1M            | S1M            | S1M            | S1M            | S1M            | S1IN           | S1M            | S1M            |
| SeqID      | 5830           | 5831           | 5832           | 5833           | 5834           | 5835           | 5836           | 5837           | 5838           | 5839           | 5840           | 5841           | 5842           | 5843           | 5844           | 5845           | 5846           | 5847           | 5848           | 5849           | 5850           | 5851           | 5852           | 5853           | 5854           | 5855           | 2856           | 5857           | 5858           | 5859           | 5860           | 5861           | 5862           | 5863           | 5864           | 2865           |
| Vame       | 7C10           | 7D10           | 7A11           | 7B11           | 7C11           | 7E11           | 7F11           | 7A12           | 7B12           | 7C12           | 8C01           | 8D01           | 8E01           | 8H01           | 8B02           | 8C02           | 8D02           | 8E02           | 8H02           | 8A03           | 8B03           | 8C03           | 8D03           | 8E03           | .8F03          | 8G03           | 8A04           | 8C04           | 8D04           | 8E04           | (8F04          | 8A05           | 8B05           | 8C05           | 8E05           | 8G05           |
| Clone Name | S1M10000017C10 | 00001          | 00001          | 00001          | 00001          | S1M10000017E11 | S1M10000017F11 | 00001          | 00001          | 00001          | 00001          | 00001          | S1M10000018E01 | 00001          | S1M10000018B02 | S1M10000018C02 | 00001          | S1M10000018E02 | 00001          | 00001          | S1M10000018B03 | S1M10000018C03 | 00001          | S1M10000018E03 | S1M10000018F03 | S1M10000018G03 | S1M10000018A04 | S1M10000018C04 | S1M10000018D04 | S1M10000018E04 | S1M10000018F04 | S1M10000018A05 | S1M10000018B05 | S1M10000018C05 | S1M10000018E05 | S1M10000018G05 |
| Ū          | S1M10          | S1M10000017D10 | S1M10000017A11 | S1M10000017B11 | S1M10000017C11 | S1M1(          | S1M1           | S1M10000017A12 | S1M10000017B12 | S1M10000017C12 | S1M10000018C01 | S1M10000018D01 | S1M1(          | S1M10000018H01 | S1M1(          | S1M1(          | S1M10000018D02 | S1M1(          | S1M10000018H02 | S1M10000018A03 | S1M1(          | S1M1(          | S1M10000018D03 | SIMI           | SIMI           | S1M1(          | S1M1(          | S1M1(          | S1M1(          | SIMI           | SIMI           | S1M1(          | S1M1(          | S1M1(          | SIMI           | S1M1(          |
| SeqID      | 4588           | 4589           | 4590           | 4591           | 4592           | 4593           | 4594           | 4595           | 4596           | 4597           | 4598           | 4599           | 4600           | 4601           | 4602           | 4603           | 4604           | 4605           | 4606           | 4607           | 4608           | 4609           | 4610           | 4611           | 4612           | 4613           | 4614           | 4615           | 4616           | 4617           | 4618           | 4619           | 4620           | 4621           | 4622           | 4623           |
|            | _              |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |
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|            | EIM            |
| SeqID      | 3346           | 3347           | 3348           | 3349           | 3350           | 3351           | 3352           | 3353           | 3354           | 3355           | 3356           | 3357           | 3358           | 3359           | 3360           | 3361           | 3362           | 3363           | 3364           | 3365           | 3366           | 3367           | 3368           | 3369           | 3370           | 3371           | 3372           | 3373           | 3374           | 3375           | 3376           | 3377           | 3378           | 3379           | 3380           | 3381           |
| lame       | SE08           | 5B09           | (H00)          | 5B10           | A11            | SF12           | 3E01           | 5A02           | SE02           | 5A03           | 5D03           | GG03           | 5A04           | 3D04           | GG04           | 5A05           | 6F05           | 90H9           | 3D08           | 6F09           | SC10           | 5A11           | SC11           | 6F12           | 7A02           | 7B02           | 7E04           | /H04           | /G06           | 7C07           | /G07           | 7H07           | 7A08           | 7B08           | 3D08           | /E08           |
| Clone Name | 0000235E08     | 0000235B09     | 0000235H09     | 0000235B10     | 0000235A11     | 0000235F12     | 0000236E01     | 0000236A02     | 0000236E02     | 0000236A03     | 0000236D03     | 0000236G03     | 0000236A04     | 0000236D04     | 0000236G04     | 0000236A05     | .0000236F05    | 0000236H06     | 0000236D08     | 00023          | 0000236C10     | 0000236A11     | 0000236C11     | .0000236F12    | 0000237A02     | 0000237B02     | 0000237E04     | 0000237H04     | 0000237G06     | 0000237C07     | 0000237G07     | 0000237H07     | 0000237A08     | 0000237B08     | 300237         | 0000237E08     |
| O          | E1M10          | E1M10000236F09 | E1M10          | E1M100         | E1M10          | E1M10000237D08 | E1M10          |
| <u> </u>   | <u> </u>       |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |
| SeqID      | 2104           | 2105           | 2106           | 2107           | 2108           | 2109           | 2110           | 2111           | 2112           | 2113           | 2114           | 2115           | 2116           | 2117           | 2118           | 2119           | 2120           | 2121           | 213            | 2123           | 217            | 2125           | 2126           | 2127           | 2128           | 2129           | 2130           | 2131           | 2132           | 2133           | 2134           | 2135           | 2136           | 2137           | 2138           | 2139           |
| Name       | 0A05           | 10B05          | 10C05          | .0G05          | 0H05           | 10B06          | 10C06          | 0A07           | 0C07           | 0G07           | OH07           | 10B08          | 10C08          | .0D08          | 10F08          | .0G08          | 0A09           | 0B0            | 10C09          | 0D00           | 10F09          | 0G00           | 0H0            | 0A10           | 0B10           | 0C10           | 10E10          | 0A11           | 0B11           | 0C11           | 10E11          | 10F11          | 0G11           | 0B12           | 0C12           | 0D12           |
| Clone Name | 00004          | 00000          | 70000          | 00000          | 00000          | 700000         | 00000          | 00004          | 00000          | 00000          | 00004          | 00000          | 00000          | 00004          | 7000C          | 00004          | 00004          | 00000          | 00000          | 00004          | 70000C         | 00004          | 00004          | 00004          | 00004          | 00004          | 700000         | 00004          | 00000          | 00000          | 70000          | 70000C         | 00004          | 00000          | 00000          | 00000          |
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| SeqID      | 862 I          | 863            | 864            | 865            | 866 I          | 867            | 898            | F 698          | 870            | 871 I          |                | 873            |                |                |                |                |                | 879 I          | ,,             | 881 E          |                |                |                |                | 886 I          | 887 I          |                |                |                | 891 I          | 892            | 893            |                | 895 I          | I  968         | I   168        |
| Sec        |                | ~              | <i>-</i>       | ~              | ~              | ~              | ~              | ~              | ~              | w              | $\sim$         | ~              | ~              | ~              | w              | •              | w              | ×.             | $\sim$         | ~              | ~              | w              | ω              | ~              | ~              | ~              | ~              | ~              | w              | w              | $\infty$       | $\infty$       | ∞              | ω              | ~              | <b>∞</b>       |

| Clone Name | S1M10000043A02<br>S1M10000043B02 | S1M10000043C02 | S1M10000043D02 | S1M10000043E02 | S1M10000043A03 | S1M10000043E03 | S1M10000043H03 | S1M10000043A04 | S1M10000043D04 | S1M10000043G04 | S1M10000043H04 | S1M10000043E05 | S1M10000043F05 | S1M10000043G05 | S1M10000043H05 | S1M10000043A06 | S1M10000043H06 | S1M10000043A07 | S1M10000043B07 | S1M10000043C07 | S1M10000043E07 | S1M10000043F07 | S1M10000043A08 | S1M10000043B08 | S1M10000043E08 | S1M10000043F08 | S1M10000043B09 | S1M10000043F09 | S1M10000043G09 | S1M10000043H09 | S1M10000043A10 | S1M10000043B10 | S1M10000043D10 | S1M10000043E10<br>S1M10000043G10 | • |
|------------|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------------|---|
| SeqID      | 5866                             | 5868           | 6985           | 5870           | 5871           | 5872           | 5873           | 5874           | 5875           | 5876           | 5877           | 5878           | 5879           | 2880           | 5881           | 5882           | 5883           | 5884           | 5885           | 5886           | 5887           | 5888           | 2889           | 2890           | 5891           | 5892           | 5893           | 5894           | 5895           | 2896           | 2897           | 2898           | 5899           | 5900<br>5901                     | • |
| Clone Name | S1M10000018A06                   | S1M10000018F06 | S1M10000018F07 | S1M10000018G07 | S1M10000018H07 | S1M10000018A08 | S1M10000018C08 | S1M10000018E08 | S1M10000018F08 | S1M10000018G08 | S1M10000018A09 | S1M10000018B09 | S1M10000018C09 | S1M10000018D09 | S1M10000018E09 | S1M10000018F09 | S1M10000018G09 | S1M10000018H09 | S1M10000018A10 | S1M10000018B10 | S1M10000018C10 | S1M10000018D10 | S1M10000018F10 | S1M10000018G10 | S1M10000018H10 | S1M10000018A11 | S1M10000018B11 | S1M10000018C11 | S1M10000018D11 | S1M10000018E11 | S1M10000018A12 | S1M10000018C12 | S1M10000018D12 | S1M10000018E12<br>S1M10000018F12 |   |
| SeqID      | 4624                             | 4626           | 4627           | 4628           | 4629           | 4630           | 4631           | 4632           | 4633           | 4634           | 4635           | 4636           | 4637           | 4638           | 4639           | 4640           | 4641           | 4642           | 4643           | 4644           | 4645           | 4646           | 4647           | 4648           | 4649           | 4650           | 4651           | 4652           | 4653           | 4654           | 4655           | 4656           | 4657           | 4658<br>4659                     | - |
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| SeqID      | 3382                             | 3384           | 3385           | 3386           | 3387           | 3388           | 3389           | 3390           | 3391           | 3392           | 3393           | 3394           | 3395           | 3396           | 3397           | 3398           | 3399           | 3400           | 3401           | 3402           | 3403           | 3404           | 3405           | 3406           | 3407           | 3408           | 3409           | 3410           | 3411           | 3412           | 3413           | 3414           | 3415           | 3416                             | _ |
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| SeqID      | 2140                             | 2142           | 2143           | 2144           | 2145           | 2146           | 2147           | 2148           | 2149           | 2150           | 2151           | 2152           | 2153           | 2154           | 2155           | 2156           | 2157           | 2158           | 2159           | 2160           | 2161           | 2162           | 2163           | 2164           | 2165           | 2166           | 2167           | 2168           | 2169           | 2170           | 2171           | 2172           | 2173           | 2174                             | 1 |
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| SeqID      | 868                              | 006            | 901            | 902            | 903            | 904            | 905            | 906            | 907            | 806            | 606            | 910            | 911            | 912            | 913            | 914            | 915            | 916            | 917            | 918            | 919            | 920            | 921            | 922            | 923            | 924            | 925            | 976            | 927            | 928            | 929            | 930            | 931            | 932                              |   |

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| SeqID      | 5902                             | 5904           | 5905           | 9069           | 2907           | 2908           | 2909           | 5910           | 5911           | 5912           | 5913           | 5914           | 5915           | 5916           | 5917           | 5918           | 5919           | 5920           | 5921           | 5922           | 5923           | 5924           | 5925           | 5926           | 5927           | 5928           | 5929           | 5930           | 5931           | 5932           | 5933           | 5934           | 5935           | 5936                             | -      |
| Clone Name | S1M10000018G12                   | S1M10000019C01 | S1M10000019D01 | S1M10000019E01 | S1M10000019F01 | S1M10000019A02 | S1M10000019D02 | S1M10000019E02 | S1M10000019A03 | S1M10000019B03 | S1M10000019D03 | S1M10000019B04 | S1M10000019C04 | S1M10000019D04 | S1M10000019G04 | S1M10000019A05 | S1M10000019C05 | S1M10000019D05 | S1M10000019F05 | S1M10000019H05 | S1M10000019A06 | S1M10000019C06 | S1M10000019D06 | S1M10000019F06 | S1M10000019A07 | S1M10000019B07 | S1M10000019C07 | S1M10000019D07 | S1M10000019E07 | S1M10000019G07 | S1M10000019A08 | S1M10000019B08 | S1M10000019C08 | S1M10000019F08<br>S1M10000019G08 |        |
| SeqID      | 4660                             | 4662           | 4663           | 4664           | 4665           | 4666           | 4667           | 4668           | 4669           | 4670           | 4671           | 4672           | 4673           | 4674           | 4675           | 4676           | 4677           | 4678           | 4679           | 4680           | 4681           | 4682           | 4683           | 4684           | 4685           | 4686           | 4687           | 4688           | 4689           | 4690           | 4691           | 4692           | 4693           | 4694                             |        |
| Clone Name | K1M10000022C10                   | K1M10000030C03 | K1M10000030C07 | K1M10000030E07 | K1M10000032E11 | K1M10000033E01 | K1M10000033B02 | K1M10000037D10 | K1M10000038D04 | K1M10000039A12 | K1M10000043E02 | K1M10000043D05 | K1M10000043H10 | K1M10000044G05 | K1M10000045D10 | P1M10000008G04 | P1M10000008C06 | P1M10000010C03 | P1M10000015C09 | P1M10000018B01 | P1M10000018C01 | P1M10000018E01 | P1M10000019F01 | P1M10000019E02 | P1M10000021G03 | P1M10000021G05 | P1M10000022D09 | P1M10000024H03 | P1M10000024D06 | P1M10000024E06 | P1M10000025G07 | P1M10000025H07 | P1M10000026H02 | P1M10000026F04<br>P1M10000026H05 |        |
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| Clone Name | E1M10000240B03                   | E1M10000240D03 | E1M10000240D06 | E1M10000240G07 | E1M10000240C08 | E1M10000240F08 | E1M10000240B10 | E1M10000240B11 | E1M10000240H11 | E1M10000240B12 | E1M10000241F01 | E1M10000241A02 | E1M10000241H02 | E1M10000241A04 | E1M10000241C06 | E1M10000241F06 | E1M10000241H07 | E1M10000241A08 | E1M10000241B08 | E1M10000241E08 | E1M10000241G08 | E1M10000241A09 | E1M10000241E09 | E1M10000241H09 | E1M10000241B11 | E1M10000241E12 | E1M10000242D06 | E1M10000242F07 | E1M10000242H07 | E1M10000242F08 | E1M10000242E11 | E1M10000242H11 | E1M10000242E12 | E1M10000243F03<br>E1M10000243G03 | 1      |
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| Clone Name | E3M10000041C08                   | E3M10000041D08 | E3M10000041G08 | E3M10000041H08 | E3M10000041A09 | E3M10000041B09 | E3M10000041C09 | E3M10000041D09 | E3M10000041F09 | E3M10000041G09 | E3M10000041H09 | E3M10000041A10 | E3M10000041B10 | E3M10000041C10 | E3M10000041D10 | E3M10000041E10 | E3M10000041F10 | E3M10000041G10 | E3M10000041H10 | E3M10000041A11 | E3M10000041B11 | E3M10000041C11 | E3M10000041D11 | E3M10000041E11 | E3M10000041F11 | E3M10000041H11 | E3M10000041B12 | E3M10000041C12 | E3M10000041D12 | E3M10000041G12 | E3M10000042B01 | E3M10000042D01 | E3M10000042G01 | E3M10000042A02<br>E3M10000042B02 | I      |
| SeqID      | 934                              | 935            | 937            | 938            | 939            | 940            | 941            | 942            | 943            | 944            | 945            | 946            | 947            | 948            | 949            | 950            | 951            | 952            | 953            | 954            | 955            | 956            | 957            | 958            | 959            | 096            | 961            | 962            | 963            | 964            | 965            | 996            | 196            | 896                              | -      |

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|------------|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
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| Clone Name | S1M10000019H08                   | S1M1000019B09  | S1M10000019D09 | S1M10000019F09 | S1M10000019G09 | S1M10000019B10 | S1M10000019G10 | S1M10000019A11 | S1M10000019B11 | S1M10000019C11 | S1M10000019F11 | S1M10000019G11 | S1M10000019A12 | S1M10000019B12 | S1M10000019C12 | S1M10000019D12 | S1M10000020E01 | S1M10000020F01 | S1M10000020G01 | S1M10000020H01 | S1M10000020B02 | S1M10000020H02 | S1M10000020B03 | S1M10000020D03 | S1M10000020E03 | S1M10000020D04 | S1M10000020E04 | S1M10000020H04 | S1M10000020A05 | S1M10000020B05 | S1M10000020F05 | S1M10000020G05 | S1M10000020A06 | S1M10000020B06 | S1M10000020D06 |
| SeqID      | 4696                             | 4698           | 4699           | 4700           | 4701           | 4702           | 4703           | 4704           | 4705           | 4706           | 4707           | 4708           | 4709           | 4710           | 4711           | 4712           | 4713           | 4714           | 4715           | 4716           | 4717           | 4718           | 4719           | 4720           | 4721           | 4722           | 4723           | 4724           | 4725           | 4726           | 4727           | 4728           | 4729           | 4730           | 4731           |
| Clone Name | P1M10000026E06                   | P1M10000026G09 | P1M10000027B02 | P1M10000027G05 | P1M10000027A06 | P1M10000028B01 | P1M10000028E02 | P1M10000028A08 | P1M10000029G03 | P1M10000029H05 | P1M10000029A09 | P1M10000032F04 | P1M10000033F01 | P1M10000033A02 | P1M10000033E03 | P1M10000033D06 | P1M10000033B08 | P1M10000035A06 | P1M10000037B12 | P1M10000037G12 | P1M10000038G02 | P1M10000038C03 | P1M10000038F04 | P1M10000038C06 | P1M10000038B08 | P1M10000038A09 | P1M10000039G05 | P1M10000039G12 | P1M10000040C01 | P1M10000040H03 | P1M10000040C04 | P1M10000040D04 | P1M10000040D05 | P1M10000040E10 | P1M10000041E01 |
| SeqID      | 3454                             | 3456           | 3457           | 3458           | 3459           | 3460           | 3461           | 3462           | 3463           | 3464           | 3465           | 3466           | 3467           | 3468           | 3469           | 3470           | 3471           | 3472           | 3473           | 3474           | 3475           | 3476           | 3477           | 3478           | 3479           | 3480           | 3481           | 3482           | 3483           | 3484           | 3485           | 3486           | 3487           | 3488           | 3489           |
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| SeqID      | 2212                             | 22.14          | 2215           | 2216           | 2217           | 2218           | 2219           | 2220           | 2221           | 2222           | 2223           | 2224           | 2225           | 2226           | 2227           | 2228           | 2229           | 2230           | 2231           | 2232           | 2233           | 2234           | 2235           | 2236           | 2237           | 2238           | 2239           | 2240           | 2241           | 2242           | 2243           | 2244           | 2245           | 2246           | 2247           |
| Clone Name | E3M10000042C02                   | E3M10000042B02 | E3M10000042C03 | E3M10000042D03 | E3M10000042B04 | E3M10000042C04 | E3M10000042E05 | E3M10000042G05 | E3M10000042D06 | E3M10000042H06 | E3M10000042G07 | E3M10000042A08 | E3M10000042B08 | E3M10000042G08 | E3M10000042H08 | E3M10000042B09 | E3M10000042D09 | E3M10000042A10 | E3M10000042B10 | E3M10000042C10 | E3M10000042E10 | E3M10000042B11 | E3M10000042D11 | E3M10000042F11 | E3M10000042G11 | E3M10000042H11 | E3M10000042D12 | E3M10000042E12 | E3M10000042F12 | E3M10000042G12 | E3M10000043B01 | E3M10000043C01 | E3M10000043D01 | E3M10000043A02 | E3M10000043B02 |
| SeqID      | 970                              | 972            | 973            | 974            | 975            | 926            | 776            | 8/6            | 626            | 086            | 186            | 985            | 983            | 984            | 985            | 986            | 786            | 886            | 686            | 066            | 166            | 992            | 993            | 994            | 995            | 966            | 766            | 866            | 666            | 1000           | 1001           | 1002           | 1003           | 1004           | 1005           |

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| Clone Name | S1M10000020E06 | S1M10000020F06 | S1M10000020H06 | S1M10000020A07 | S1M10000020B07 | S1M10000020D07 | S1M10000020F07 | S1M10000020G07 | S1M10000020A08 | S1M10000020D08 | S1M10000020E08 | S1M10000020G08 | S1M10000020H08 | S1M10000020B09 | S1M10000020C09 | S1M10000020F09 | S1M10000020G09 | S1M10000020C10 | S1M10000020G10 | S1M10000020H10 | S1M10000020A11 | S1M10000020C11 | S1M10000020E11 | S1M10000020F11 | S1M10000020G11 | S1M10000020H11 | S1M10000020A12 | S1M10000020B12 | S1M10000020D12 | S1M10000020E12 | S1M10000020F12 | S1M10000020G12 | S1M10000021D01 | S1M10000021E01 | S1M10000021G01 | S1M10000021E02   |
| SeqID      | 4732           | 4733           | 4734           | 4735           | 4736           | 4737           | 4738           | 4739           | 4740           | 4741           | 4742           | 4743           | 4744           | 4745           | 4746           | 4747           | 4748           | 4749           | 4750           | 4751           | 4752           | 4753           | 4754           | 4755           | 4756           | 4757           | 4758           | 4759           | 4760           | 4761           | 4762           | 4763           | 4764           | 4765           | 4766           | 4./6/            |
| Clone Name | P1M10000041F01 | P1M10000041B02 | P1M10000041A12 | P1M10000042E08 | P1M10000042B12 | P1M10000043A03 | P1M10000043H04 | P1M10000043D06 | P1M10000044F07 | P1M10000046B03 | P1M10000046C07 | P1M10000046C08 | P1M10000046C09 | P1M10000046G11 | P1M10000047H02 | P1M10000047B04 | P1M10000047F07 | P1M10000047G10 | P1M10000047E11 | P1M10000048A03 | P1M10000049E08 | P1M10000049G10 | P1M10000050G11 | P1M10000051F01 | P1M10000051D11 | P1M10000052C03 | P1M10000052E04 | P1M10000052C12 | P1M10000053C02 | P1M10000053E07 | P1M10000053F08 | P1M10000053B12 | P1M10000055E05 | P1M10000055C08 | P1M10000055A11 | P1M10000056G01   |
| SeqID      | 3490           | 3491           | 3492           | 3493           | 3494           | 3495           | 3496           | 3497           | 3498           | 3499           | 3500           | 3501           | 3502           | 3503           | 3504           | 3505           | 3506           | 3507           | 3508           | 3509           | 3510           | 3511           | 3512           | 3513           | 3514           | 3515           | 3516           | 3517           | 3518           | 3519           | 3520           | 3521           | 3522           | 3523           | 3524           | 3525             |
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| SeqID      | 2248           | 2249           | 2250           | 2251           | 2252           | 2253           | 2254           | 2255           | 2256           | 2257           | 2258           | 2259           | 2260           | 2261           | 2262           | 2263           | 2264           | 2265           | 2266           | 2267           | 2268           | 2269           | 2270           | 2271           | 2272           | 2273           | 2274           | 2275           | 2276           | 2277           | 2278           | 2279           | 2280           | 2281           | 2282           | 2283             |
| Clone Name | E3M10000043D02 | E3M10000043H02 | E3M10000043A03 | E3M10000043B03 | E3M10000043E03 | E3M10000043F03 | E3M10000043G03 | E3M10000043F04 | E3M10000043G04 | E3M10000043A05 | E3M10000043G05 | E3M10000043H05 | E3M10000043B06 | E3M10000043F06 | E3M10000043H06 | E3M10000043E07 | E3M10000043G07 | E3M10000043A08 | E3M10000043B08 | E3M10000043C08 | E3M10000043E08 | E3M10000043F08 | E3M10000043G08 | E3M10000043H08 | E3M10000043A09 | E3M10000043C09 | E3M10000043D09 | E3M10000043H09 | E3M10000043A10 | E3M10000043B10 | E3M10000043C10 | E3M10000043D10 | E3M10000043E10 | E3M10000043F10 | E3M10000043G10 | E3M10000043A11   |
| SeqID      | 1006           | 1007           | 1008           | 1009           | 1010           | 1011           | 1012           | 1013           | 1014           | 1015           | 1016           | 1017           | 1018           | 1019           | 1020           | 1021           | 1022           | . 1023         | 1024           | 1025           | 1026           | 1027           | 1028           | 1029           | 1030           | 1031           | 1032           | 1033           | 1034           | 1035           | 1036           | 1037           | 1038           | 1039           | 1040           | 1041             |

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|------------|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------------|-------------------|
| SeqID      | 6010                             | 6012           | 6013           | 6014           | 6015           | 6016           | 6017           | 6018           | 6019           | 6020           | 6021           | 6022           | 6023           | 6024           | 6025           | 9709           | 6027           | 8209           | 6039           | 6030           | 6031           | 6032           | 6033           | 6034           | 6035           | 9809           | 6037           | 6038           | 6039           | 6040           | 6041           | 6042           | 6043           | 6044<br>6045                     | •                 |
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| SeqID      | 4768                             | 4770           | 4771           | 4772           | 4773           | 4774           | 4775           | 4776           | 4777           | 4778           | 4779           | 4780           | 4781           | 4782           | 4783           | 4784           | 4785           | 4786           | 4787           | 4788           | 4789           | 4790           | 4791           | 4792           | 4793           | 4794           | 4795           | 4796           | 4797           | 4798           | 4799           | 4800           | 4801           | 4802                             | -                 |
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| Clone Name | E3M10000043B11                   | E3M10000043G11 | E3M10000043H11 | E3M10000043B12 | E3M10000043D12 | E3M10000043F12 | E3M10000043G12 | E3M10000044E01 | E3M10000044C02 | E3M10000045E07 | E3M10000046C04 | E3M10000047D02 | E3M10000047B08 | E3M10000047C08 | E3M10000047D08 | E3M10000050B01 | E3M10000050C01 | E3M10000050D01 | E3M10000050B02 | E3M10000050C02 | E3M10000050E02 | E3M10000050F02 | E3M10000050H04 | E3M10000050B05 | E3M10000050D05 | E3M10000050E05 | E3M10000050G05 | E3M10000050H05 | E3M10000050A06 | E3M10000050C06 | E3M10000050D06 | E3M10000050F06 | E3M10000050H06 | E3M10000050A07<br>E3M10000050B07 |                   |
| SeqID      | 1042                             | 1042           | 1045           | 1046           | 1047           | 1048           | 1049           | 1050           | 1051           | 1052           | 1053           | 1054           | 1055           | 1056           | 1057           | 1058           | 1059           | 1060           | 1061           | 1062           | 1063           | 1064           | 1065           | 1066           | 1067           | 1068           | 1069           | 1070           | 1071           | 1072           | 1073           | 1074           | 1075           | 1076                             | -                 |

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|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------------|
| SeqID      | 6082           | 6083           | 6084           | 982            | 9809           | 2809           | 8809           | 6809           | 0609           | 6091           | 6092           | 6093           | 6094           | 6095           | 9609           | 2609           | 8609           | 6609           | 6100           | 6101           | 6102           | 6103           | 6104           | 6105           | 6106           | 6107           | 6108           | 6109           | 6110           | 6111           | 6112           | 6113           | 6114           | 6115           | 6116                             |
| Clone Name | S1M10000022G07 | S1M10000022H07 | S1M10000022A08 | S1M10000022B08 | S1M10000022C08 | S1M10000022D08 | S1M10000022F08 | S1M10000022G08 | S1M10000022H08 | S1M10000022D09 | S1M10000022E09 | S1M10000022B10 | S1M10000022B11 | S1M10000022C11 | S1M10000022D11 | S1M10000022F11 | S1M10000022H11 | S1M10000022A12 | S1M10000022B12 | S1M10000022G12 | S1M10000023B01 | S1M10000023D01 | S1M10000023E01 | S1M10000023G01 | S1M10000023C02 | S1M10000023G02 | S1M10000023H02 | S1M10000023B03 | S1M10000023D03 | S1M10000023G03 | S1M10000023D04 | S1M10000023E04 | S1M10000023F04 | S1M10000023A05 | S1M10000023D05<br>S1M10000023H05 |
| SeqID      | 4840           | 4841           | 4842           | 4843           | 4844           | 4845           | 4846           | 4847           | 4848           | 4849           | 4850           | 4851           | 4852           | 4853           | 4854           | 4855           | 4856           | 4857           | 4858           | 4859           | 4860           | 4861           | 4862           | 4863           | 4864           | 4865           | 4866           | 4867           | 4868           | 4869           | 4870           | 4871           | 4872           | 4873           | 4874                             |
| Clone Name | P1M10000071A03 | P1M10000071E04 | P1M10000073G03 | P1M10000073D04 | P1M10000073A06 | P1M10000073D09 | P1M10000073B10 | P1M10000074B01 | P1M10000074B04 | P1M10000074E04 | P1M10000074E09 | P1M10000074F10 | P1M10000074G12 | P1M10000075F02 | P1M10000075B03 | P1M10000075A04 | P1M10000075C04 | P1M10000075C05 | P1M10000075G05 | P1M10000076D05 | P1M10000076C08 | P1M10000076D10 | P1M10000077E04 | P1M10000077H05 | P1M10000077A08 | P1M10000077C08 | P1M10000096F01 | P1M10000096E04 | P1M10000096E12 | P1M10000097G05 | P1M10000059B04 | P1M10000059H08 | P1M10000059H09 | P1M10000059B10 | P1M10000059B11<br>P1M10000059D11 |
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| SeqID      | 2356           | 2357           | 2358           | 2359           | 2360           | 2361           | 2362           | 2363           | 2364           | 2365           | 2366           | 2367           | 2368           | 2369           | 2370           | 2371           | 2372           | 2373           | 2374           | 2375           | 2376           | 2377           | 2378           | 2379           | 2380           | 2381           | 2382           | 2383           | 2384           | 2385           | 2386           | 2387           | 2388           | 2389           | 2390                             |
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| SeqID      | 1114           | 1115           | 1116           | 1117           | 1118           | 1119           | 1120           | 1121           | 1122           | 1123           | 1124           | 1125           | 1126           | 1127           | 1128           | 1129           | 1130           | 1131           | 1132           | 1133           | 1134           | 1135           | 1136           | 1137           | 1138           | 1139           | 1140           | 1141           | 1142           | 1143           | 1144           | 1145           | 1146           | 1147           | 1148                             |

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|---|--|
| Clone Name SIM10000047G08 SIM10000047H08 SIM10000047H09 SIM10000047B09 SIM10000047E09 SIM10000047E09 SIM10000047E09 SIM10000047H09 SIM10000047H109 SIM10000047H109 SIM10000047H10 SIM10000047H11  | S1M10000048G01<br>S1M10000048H01<br>S1M10000048A02<br>S1M10000048B02<br>S1M10000048C02 |
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| SeqID      | 3670           | 3671           | 3672           | 3673           | 3674           | 3675           | 3676           | 3677           | 3678           | 3679           | 3680           | 3681           | 3682           | 3683           | 3684           | 3685           | 3686           | 3687           | 3688           | 3689           | 3690           | 3691           | 3692           | 3693           | 3694           | 3695           | 3696           | 3697           | 3698           | 3699           | 3700           | 3701           | 3702           | 3703           | 3704           | 3705            |
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| SeqID      | 1186           | 1187           | 1188           | 1189           | 1190           | 1191           | 1192           | 1193           | 1194           | 1195           | 1196           | 1197           | 1198           | 1199           | 1200           | 1201           | 1202           | 1203           | 1204           | 1205           | 1206           | 1207           | 1208           | 1209           | 1210           | 1211           | 1212           | 1213           | 1214           | 1215           | 1216           | 1217           | 1218           | 1219           | 1220           | 1221            |

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| SeqID      | 4948           | 4949           | 4950           | 4951           | 4952           | 4953           | 4954           | 4955           | 4956           | 4957           | 4958           | 4959           | 4960           | 4961           | 4962           | 4963           | 4964           | 4965           | 4966           | 4967           | 4968           |
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| Clone Name | E1M10000258G04 | E1M10000258C05 | E1M10000258D05 | E1M10000258F05 | E1M10000258G05 | E1M10000258A06 | E1M10000258D06 | E1M10000258B07 | E1M10000258G07 | E1M10000258G08 | E1M10000258B09 | E1M10000258D09 | E1M10000258F10 | E1M10000258C11 | E1M10000258F11 | E1M10000259C03 | E1M10000259B04 | E1M10000259E04 | E1M10000259E05 | E1M10000259B12 | E1M10000260E02 |
| SeqID      | 2464           | 2465           | 2466           | 2467           | 2468           | 2469           | 2470           | 2471           | 2472           | 2473           | 2474           | 2475           | 2476           | 2477           | 2478           | 2479           | 2480           | 2481           | 2482           | 2483           | 2484           |
| Clone Name | P347.2         | P31-11-J20     | P336-14.F20    | P31-27-M1      | P338-4.M21     | P334-8.L7      | P31-2-E16      | P335-3.J14     | P334-5.H2      | P31-33-N2      | P332-11.C20    | 869.A23        | P317-2.A3      | P326-9.K2      | P323-8.P1      | P35-8          | P36-13.E2      | P38-1.G20      | P327-50.M10    | P328-8.D21     | P328-20.P20    |
| SeqID      | 1222           | 1223           | 1224           | 1225           | 1226           | 1227           | 1228           | 1229           | 1230           | 1231           | 1232           | 1233           | 1234           | 1235           | 1236           | 1237           | 1238           | 1239           | 1240           | 1241           | 1242           |

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## **EXAMPLE 3**

## Comparison Of Isolated Nucleic Acids to Known Sequences

The nucleotide sequences of the subcloned fragments from Escherichia coli, Staphylococcus aureus, Enterococcus faecalis, Klebsiella pneumoniae, Pseudomonas aeruginosa and Salmonella typhimurium obtained from the expression vectors discussed above were compared to known sequences from Escherichia coli, Staphylococcus aureus, Enterococcus faecalis, Klebsiella pneumoniae, Pseudomonas aeruginosa, Salmonella typhimurium and other microorganisms as follows. First, to confirm that each clone originated from one location on the chromosome and was not chimeric, the nucleotide sequences of the selected clones were compared against the Escherichia coli, Staphylococcus aureus, Enterococcus faecalis, Klebsiella pneumoniae, Pseudomonas aeruginosa or Salmonella typhimurium genomic sequences to align the clone to the correct position on the chromosome. The NCBI BLASTN v 2.0.9 program was used for this comparison, and the incomplete Staphylococcus aureus genomic sequences licensed from TIGR, as well as the NCBI nonredundant GenBank database were used as the source of genomic data. Salmonella typhimurium sequences were compared to sequences available from the Genome Sequencing Center (http://genome.wustl.edu/gsc/salmonella.shtml), and the Sanger Centre (http://www.sanger.ac.uk/projects/S typhi). Pseudomonas aeruginosa sequences were compared to a proprietary database and the NCBI GenBank database. The E. faecalis sequences were compared to a proprietary database.

The BLASTN analysis was performed using the default parameters except that the filtering was turned off. No further analysis was performed on inserts which resulted from the ligation of multiple fragments.

In general, antisense molecules and their complementary genes are identified as follows. First, all possible full length open reading frames (ORFs) are extracted from available genomic databases. Such databases include the GenBank nonredundant (nr) database, the unfinished genome database available from TIGR and the PathoSeq database developed by Incyte Genomics. The latter database comprises over 40 annotated bacterial genomes including complete ORF analysis. If databases are incomplete with regard to the bacterial genome of interest, it is not necessary to extract all ORFs in the genome but only to extract the ORFs within the portions of the available genomic sequences which are complementary to the clones of interest. Computer algorithms for identifying ORFs, such as GeneMark, are available and well known to those in the art. Comparison of the clone DNA to the complementary ORF(s) allows determination of whether the clone is a sense or antisense clone. Furthermore, each ORF extracted from the database can be compared to sequences in well annotated databases including the GenBank (nr) protein database, SWISSPROT and the like. A description of the gene or of a closely related gene in a closely related microorganism is often available in these databases. Similar methods are used to identify antisense clones corresponding to genes encoding non-translated RNAs.

In order to generate the gene identification data compiled in Table IB, each of the cloned nucleic acid sequences discussed above corresponding to SEQ ID NO.s 1-6213 was used to identify the corresponding *Escherichia coli, Staphylococcus aureus, Enterococcus faecalis, Klebsiella pneumoniae, Pseudomonas aeruginosa* or *Salmonella typhimurium* ORFs in the PathoSeq v.4.1 (March 2000 release) database of microbial genomic sequences. For this purpose, the NCBI BLASTN 2.0.9 computer algorithm was used. The default parameters were used except that filtering was turned off. The default parameters for the BLASTN and BLASTX analyses were:

Expectation value (e)=10

Alignment view options: pairwise

Filter query sequence (DUST with BLASTN, SEG with others)=T

Cost to open a gap (zero invokes behavior)=0

Cost to extend a gap (zero invokes behavior)=0

X dropoff value for gapped alignment (in bits) (zero invokes behavior)=0

Show GI's in deflines=F

Penalty for a nucleotide mismatch (BLASTN only)=!3

Reward for a nucleotide match (BLASTN only)=1

Number of one-line descriptions (V)=500

Number of alignments to show (B)=250

Threshold for extending hits=default

20 Perform gapped alignment (not available with BLASTX)=T

Query Genetic code to use=1

DB Genetic code (for TBLAST[nx] only=1

Number of processors to use=1

SeqAlign file

25 Believe the query defline=F

Matrix=BLOSUM62

Word Size= default

Effective length of the database (use zero for the real size)=0

Number of best hits from a region to keep=100

30 Length of region used to judge hits=20

Effective length of the search space (use zero for the real size)=0

Query strands to search against database (for BLAST[nx] and TBLASTX), 3 is both, 1 is top, 2 is bottom=3

Produce HTML output=F

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Alternatively, ORFs were identified and refined by conducting a survey of the public and private data sources. Full-length gene protein and nucleotide sequences for these organisms were assembled from various sources. For *Pseudomonas aeruginosa*, gene sequences were adopted from the Pseudomonas genome sequencing project (downloaded from http://www.pseudomonas.com). For *Klebsiella pneumoniae*, *Staphylococcus aureus*, *Streptococcus pneumoniae* and *Salmonella typhi*, genomic sequences from PathoSeq v 4.1 (Mar 2000 release) was reanalyzed for ORFs using the gene finding software GeneMark v 2.4a, which was purchased from GenePro Inc. 451 Bishop St., N.W., Suite B, Atlanta, GA, 30318, USA.

Antisense clones were identified as those clones for which transcription from the inducible promoter would result in the expression of an RNA antisense to a complementary ORF, intergenic

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or intragenic sequence. Those clones containing single inserts and that caused growth sensitivity upon induction are listed in Table IA.

The gene descriptions in the PathoSeq database derive from annotations available in the public sequence databases described above. Where a clone was found to share significant sequence identity to two or more adjacent ORFs, it was listed once for each ORF and the PathoSeq information for each ORF was compiled in Table IB.

Table IA lists the SEQ ID NOs. and clone names of the inserts which inhibited proliferation. This information was used to identify the ORFs (SEQ ID NOs.: 6214-42397) whose gene products (SEQ ID NOs. 42398-78581) were inhibited by the nucleic acids comprising the nucleotide sequences of SEQ ID NOs. 1-6213. Table IB lists the clone name and the PathoSeq Locus containing the clone.

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## TABLE IB

| LocusID  | Clone Name                              | Gene      | Clone Name     | Gene      | Clone Name     | Gene      |
|--|---|-----------|----------------|-----------|----------------|-----------|
| ESMI10000001B01  | Clone Ivallie                           |           |                |           |                |           |
| E3M10000001B01   | F3M10000001B01                          |           | E1M10000233C05 |           | S1M10000005E05 | SAU802496 |
| E3MI0000001A02   |   |           |                |           | S1M10000005C06 | SAU802121 |
| E3M10000001A02   |   |           |                |           | S1M10000005D06 | SAU801183 |
| E3M10000001B02   |   |           |                |           | S1M10000005D06 | SAU801184 |
| E3MI0000001B02         EFA201977         E1MI00000233R08         ECO103266         SIMI0000005B07         SAU801264           E3MI0000001B02         EFA203137         E1MI0000233A09         ECO104092         SIMI0000005D07         SAU801264           E3MI0000001D02         EFA200840         E1MI0000233B09         ECO104093         SIMI0000005B08         SAU802496           E3MI0000001E02         EFA200840         EIMI0000233B09         ECO103238         SIMI0000005B08         SAU802496           E3MI0000001E02         EFA200840         EIMI0000233B10         ECO103223         SIMI0000005B08         SAU800127           E3MI0000001G02         EFA2052527         EIMI0000233B10         ECO103243         SIMI0000005B09         SAU801226           E3MI0000001G02         EFA2052528         EIMI0000233B10         ECO103243         SIMI0000005B09         SAU80122           E3MI0000001E03         EFA201987         EIMI0000234B1         ECO103243         SIMI0000005D09         SAU801722           E3MI0000001E03         EFA201987         EIMI0000234E02         ECO103886         SIMI0000005A10         SAU801722           E3MI0000001E03         EFA201987         EIMI0000234E02         ECO103886         SIMI000005A11         SAU801723           E3MI0000001E03         EFA201987         EIMI  |   |           |                |           | S1M10000005A07 | SAU800967 |
| E3M10000001E02   |   |           |                |           |                | SAU802496 |
| E3M10000001C02         EFA202404         E1M10000233A09         EC0104093         SIM10000001D02         EFA202003         E1M10000233E09         EC0103238         SIM10000001B08         SAU800548           E3M10000001E02         EFA200840         EIM10000233E09         EC0103239         SIM10000005B08         SAU800548           E3M10000001E02         EFA206527         EIM10000233E09         EC0103239         SIM10000005B08         SAU8002496           E3M10000001G02         EFA205257         EIM10000233E01         EC0103242         SIM10000005B09         SAU8002496           E3M10000001G02         EFA205258         EIM10000233E01         EC0103243         SIM10000005D09         SAU80042496           E3M10000001E03         EFA201987         EIM10000234B01         EC0103848         SIM10000005D09         SAU80042249           E3M10000001E03         EFA201987         EIM10000234B01         EC0103884         SIM10000005A10         SAU801722           E3M10000001E03         EFA201987         EIM10000234C02         EC0103233         SIM10000005A11         SAU801722           E3M10000001E03         EFA201987         EIM10000234C02         EC0103233         SIM10000005A11         SAU80173           E3M10000001E03         EFA201987         EIM10000234C02         EC0103233         SIM10000005B11 <td></td> <td></td> <td></td> <td></td> <td></td> <td>SAU801264</td>  |   |           |                |           |                | SAU801264 |
| E3M10000001D02   |   |           |                |           | S1M10000005A08 | SAU802496 |
| E3M10000001E02         EFA200840         EIM10000233E09         ECO103239         SIM10000005D08         SAU800607           B3M10000001F02         EFA205257         EIM10000233F09         ECO103242         SIM10000005B09         SAU800496           B3M10000001G02         EFA205257         EIM10000233D10         ECO103243         SIM10000005B09         SAU800122           B3M10000001F02         EFA205258         EIM10000233B10         ECO103243         SIM10000005D09         SAU801481           B3M10000001E03         EFA201987         EIM10000234B01         ECO103884         SIM10000005A10         SAU801723           E3M10000001E03         EFA201987         EIM10000234B02         ECO103886         SIM1000005A10         SAU801722           E3M10000001E03         EFA205258         EIM10000234G02         ECO103233         SIM10000005A10         SAU801722           E3M10000001E03         EFA2052528         EIM10000234G02         ECO103234         SIM10000005C11         SAU801641           E3M10000001D03         EFA2052528         EIM10000234C08         ECO103844         SIM10000005E11         SAU801641           E3M10000001D04         EFA205258         EIM10000234C08         ECO103878         SIM10000005E11         SAU802160           E3M10000001D04         EFA205258         EIM  |   |           |                |           | S1M10000005B08 | SAU800548 |
| E3M10000001F02   |   |           |                |           | S1M10000005D08 | SAU800607 |
| E3M10000001G02   | 1                                       |           |                |           | S1M10000005E08 | SAU802496 |
| E3M1000001H02  |   |           |                | ECO103242 | S1M10000005B09 | SAU800122 |
| E3M1000001H02  |   |           |                |           |                | SAU801481 |
| E3M1000001E03  |   |           |                |           | S1M10000005D09 | SAU800542 |
| E3M1000001E03  |   |           |                |           |                | SAU801723 |
| E3M1000001G03  | ľ                                       |           |                |           | S1M10000005A10 | SAU801722 |
| E3M1000001G03  |   |           |                | 1 1       | S1M10000005A11 | SAU801644 |
| E3M10000001H03   | l                                       |           |                |           |                | SAU801113 |
| E3M10000001D04 EFA201980 EIM10000234C08 ECO103878 SIM10000005B12 SAU802160 E3M10000001D04 EFA201980 EIM10000234C08 ECO204942 SIM10000005B12 SAU802160 E3M10000001D04 EFA201981 EIM10000234C08 ECO204942 SIM10000005B12 SAU603460 E3M10000001D04 EFA201981 EIM10000234F08 ECO103461 SIM10000005B12 SAU603460 E3M10000001E04 EFA201028 EIM10000234F08 ECO103265 SIM10000006F01 SAU801264 E3M10000001F04 EFA201028 EIM10000234F08 ECO103226 SIM10000006F01 SAU801264 E3M1000001F04 EFA201983 EIM10000234F09 ECO103055 SIM10000006E02 SAU800381 E3M10000001F04 EFA201993 EIM10000234F09 ECO103055 SIM10000006E02 SAU802496 E3M10000001F04 EFA201993 EIM10000234F01 ECO100876 SIM10000006E02 SAU802496 E3M10000001H04 EFA201981 EIM10000234F12 ECO104010 SIM10000006E02 SAU802160 E3M10000001H04 EFA201981 EIM10000234F12 ECO104010 SIM10000006E02 SAU802125 E3M10000001H04 EFA201981 EIM10000235A03 ECO10233 SIM10000006B03 SAU802496 E3M10000001B05 EFA201993 EIM10000235H03 ECO10233 SIM10000006B03 SAU802496 E3M10000001B05 EFA201997 EIM10000235F04 ECO103236 SIM1000006B03 SAU802496 E3M10000001B05 EFA201975 EIM10000235F04 ECO103236 SIM1000006B03 SAU801740 E3M10000001B05 EFA201975 EIM10000235F04 ECO103236 SIM1000006B03 SAU801740 E3M10000001B05 EFA201028 EIM10000235F04 ECO103236 SIM1000006B03 SAU801256 E3M10000001B05 EFA201028 EIM10000235F06 ECO103286 SIM1000006B03 SAU801275 E3M10000001B05 EFA201028 EIM10000235F06 ECO103481 SIM1000006B03 SAU801275 E3M10000001B08 EFA201028 EIM10000235B08 ECO103481 SIM1000006B04 SAU801139 E3M10000001B08 EFA201028 EIM10000235B08 ECO103481 SIM1000006B04 SAU801139 E3M10000001B08 EFA201028 EIM10000235B08 ECO103481 SIM1000006B04 SAU801138 E3M10000001B09 EFA201987 EIM10000235B08 ECO103481 SIM1000006B04 SAU801138 E3M10000001B09 EFA201987 EIM10000235B08 ECO103481 SIM1000006B04 SAU801138 E3M10000001B09 EFA201987 EIM10000235B08 ECO103481 SIM1000006B04 SAU801344 E3M10000001B09 EFA205258 EIM10000235B08 ECO103481 SIM10000006B04 SAU801496 E3M10000001B09 EFA205258 EIM10000236B02 ECO103481 SIM1000006B04 SAU801496 E3M10000001B09 EFA205258 EIM10000236B |   |           |                |           |                | SAU800547 |
| E3M1000001D04  |   |           |                |           | S1M10000005E11 | SAU800155 |
| E3M1000001D04  |   |           |                |           |                | SAU802160 |
| E3M10000001D04 EFA205229 E1M10000234F08 ECO103461 S1M10000005D12 SAU801644 E3M10000001E04 EFA201028 E1M10000234H08 ECO103226 S1M10000006F01 SAU801264 E3M10000001F04 EFA200811 E1M10000234F09 ECO103055 S1M10000006B02 SAU800381 E3M10000001G04 EFA201980 E1M10000234F09 ECO103876 S1M1000006E02 SAU802496 E3M10000001H04 EFA201980 E1M10000234G10 ECO100886 S1M10000006F02 SAU802196 E3M10000001H04 EFA201981 E1M10000234B12 ECO104010 S1M1000006F02 SAU802125 E3M10000001H04 EFA201993 E1M10000234B12 ECO104010 S1M10000006F02 SAU802125 E3M10000001B05 EFA201993 E1M10000235D01 ECO102233 S1M10000006B03 SAU802496 E3M1000001D05 EFA201993 E1M10000235A03 ECO10298 S1M10000006B03 SAU802655 E3M10000001D05 EFA201975 E1M10000235E04 ECO103236 S1M10000006B03 SAU801740 E3M1000001G05 EFA202001 E1M10000235B06 ECO103236 S1M1000006E03 SAU801246 E3M10000001G05 EFA202001 E1M10000235B06 ECO103236 S1M10000006F03 SAU801246 E3M10000001F06 EFA201028 E1M10000235B08 ECO103885 S1M1000006F03 SAU801275 E3M10000001F06 EFA201028 E1M10000235B08 ECO103885 S1M1000006F03 SAU801139 E3M10000001F06 EFA201028 E1M10000235B08 ECO103885 S1M1000006F03 SAU801139 E3M10000001F06 EFA201028 E1M10000235B08 ECO103885 S1M1000006F03 SAU801275 E3M10000001F06 EFA201028 E1M10000235B08 ECO103885 S1M1000006F03 SAU801275 E3M10000001F06 EFA201028 E1M10000235B08 ECO103885 S1M10000006F04 SAU802158 E3M10000001F09 EFA20187 E1M10000235F09 ECO103481 S1M1000006F04 SAU801189 E3M10000001E08 EFA201087 E1M10000235H09 ECO103481 S1M10000006F04 SAU801189 E3M10000001E09 EFA205258 E1M10000235F12 ECO103233 S1M1000006F04 SAU801256 E3M10000001E09 EFA205258 E1M10000235F12 ECO103233 S1M1000006F04 SAU801256 E3M10000001E09 EFA205258 E1M10000236E01 ECO100385 S1M1000006F06 SAU800331 E3M10000001B10 EFA205258 E1M10000236E01 ECO100357 S1M1000006F06 SAU800331 E3M10000001D09 EFA201985 E1M10000236E02 ECO103348 S1M1000006F06 SAU800331 E3M10000001D09 EFA201985 E1M10000236E02 ECO103240 S1M1000006F06 SAU800332 E3M10000001D09 EFA202953 E1M10000236E02 ECO102556 S1M1000006F06 SAU800366 E3M10000004D01 EFA202953 E1M10000236E03 E | l                                       |           |                |           |                | SAU603460 |
| E3M1000001E04 EFA201028 E1M10000234H08 ECO103226 S1M10000006F01 SAU801264 E3M1000001F04 EFA200811 E1M10000234F09 ECO103055 S1M10000006B02 SAU800381 E3M1000001G04 EFA201993 E1M10000234F010 ECO100876 S1M1000006E02 SAU802496 E3M1000001H04 EFA201980 E1M10000234F010 ECO100886 S1M1000006E02 SAU802160 E3M10000001H04 EFA201981 E1M10000234B12 ECO104010 S1M1000006G02 SAU802165 E3M10000001H04 EFA201982 E1M10000235D01 ECO102233 S1M1000006G02 SAU802125 E3M10000001H04 EFA201993 E1M10000235D01 ECO102233 S1M1000006G02 SAU802125 E3M10000001B05 EFA201993 E1M10000235D01 ECO102233 S1M1000006B03 SAU802496 E3M1000001D05 EFA2019974 E1M10000235H03 ECO103886 S1M1000006B03 SAU801256 E3M10000001D05 EFA201975 E1M10000235H03 ECO103886 S1M1000006B03 SAU801740 E3M10000001G05 EFA202001 E1M10000235B06 ECO103886 S1M1000006B03 SAU801256 E3M10000001G05 EFA202003 E1M10000235B06 ECO103886 S1M1000006F03 SAU801256 E3M10000001G05 EFA202003 E1M10000235B06 ECO103885 S1M10000006F03 SAU801275 E3M10000001F06 EFA201028 E1M10000235B08 ECO103885 S1M10000006F03 SAU801275 E3M10000001B08 EFA201028 E1M10000235B08 ECO103885 S1M1000006G03 SAU801275 E3M10000001B08 EFA201028 E1M10000235B08 ECO103885 S1M1000006F04 SAU802158 E3M10000001B08 EFA201028 E1M10000235B08 ECO103481 S1M1000006B04 SAU802158 E3M10000001B08 EFA201028 E1M10000235B08 ECO103481 S1M1000006B04 SAU802158 E3M10000001B08 EFA200839 E1M10000235B09 ECO103481 S1M10000006B04 SAU801644 E3M1000001B08 EFA200839 E1M10000235B10 ECO103885 S1M10000006B04 SAU801644 E3M1000001B09 EFA205258 E1M10000235B10 ECO103885 S1M10000006C06 SAU800235 E3M10000001B09 EFA205258 E1M10000235B10 ECO103885 S1M1000006C06 SAU80235 E3M10000001B09 EFA205258 E1M10000235B10 ECO103885 S1M10000006C06 SAU800331 E3M10000001B00 EFA205258 E1M10000236B01 ECO100385 S1M1000006C06 SAU800331 E3M10000001B01 EFA205258 E1M10000236B02 ECO103240 S1M1000006C06 SAU800332 E3M10000004D01 EFA209253 E1M10000236B02 ECO103287 S1M1000006C06 SAU800332 E3M10000004D01 EFA209839 E1M10000236B03 ECO102555 S1M1000006G06 SAU80006 E3M10000004D02 EFA200839 E1M10000236B03 ECO102 |   |           |                |           |                |           |
| E3M1000001F04 EFA201993 E1M10000234F09 ECO103055 S1M1000006B02 SAU800381 E3M10000001G04 EFA201993 E1M10000234D10 ECO100876 S1M1000006E02 SAU802496 E3M10000001H04 EFA201980 E1M10000234G10 ECO100886 S1M1000006F02 SAU802160 E3M10000001H04 EFA201981 E1M10000234B12 ECO104010 S1M1000006G02 SAU802165 E3M10000001H04 EFA201981 E1M10000235D01 ECO102233 S1M1000006A03 SAU802496 E3M10000001B05 EFA201993 E1M10000235D01 ECO102233 S1M1000006B03 SAU802655 E3M10000001B05 EFA201993 E1M10000235A03 ECO100798 S1M1000006B03 SAU802655 E3M10000001D05 EFA201974 E1M10000235H03 ECO103386 S1M1000006B03 SAU801740 E3M1000001B05 EFA201975 E1M10000235E04 ECO103236 S1M1000006E03 SAU801746 E3M10000001G05 EFA202001 E1M10000235B06 ECO103236 S1M1000006E03 SAU801256 E3M10000001G05 EFA202003 E1M10000235B06 ECO103886 S1M1000006F03 SAU801139 E3M10000001F06 EFA201028 E1M10000235B08 ECO103885 S1M1000006G03 SAU801139 E3M10000001F06 EFA201028 E1M10000235B08 ECO103885 S1M1000006G03 SAU801139 E3M10000001F06 EFA201028 E1M10000235B08 ECO103885 S1M1000006G04 SAU801139 E3M10000001F06 EFA201028 E1M10000235B09 ECO103481 S1M1000006G04 SAU802496 E3M10000001F06 EFA20839 E1M10000235F09 ECO103481 S1M1000006F04 SAU802158 E3M10000001F09 EFA20839 E1M10000235F109 ECO103481 S1M1000006F04 SAU801644 E3M1000001F09 EFA201987 E1M10000235F109 ECO103482 S1M1000006F04 SAU801644 E3M1000001F09 EFA201987 E1M10000235F12 ECO103234 S1M1000006F04 SAU8012223 E3M10000001F09 EFA205258 E1M10000235F12 ECO103234 S1M1000006G04 SAU802224 E3M10000001F09 EFA205258 E1M10000235F12 ECO103234 S1M10000006F05 SAU802224 E3M10000001F09 EFA205258 E1M10000235F12 ECO103234 S1M1000006G06 SAU800331 E3M10000004D01 EFA205258 E1M10000236F02 ECO103387 S1M1000006F06 SAU802233 E3M10000004D01 EFA205258 E1M10000236F02 ECO103378 S1M1000006G06 SAU800331 E3M10000004D01 EFA205258 E1M10000236F02 ECO103378 S1M1000006F06 SAU800331 E3M10000004D01 EFA20985 E1M10000236F02 ECO103378 S1M10000006F06 SAU800331 E3M10000004D01 EFA209839 E1M10000236F03 ECO102556 S1M1000006F06 SAU800348 E3M10000004D01 EFA209839 E1M10000236F03 ECO102555  |   |           |                |           |                | I         |
| E3M1000001G04 EFA201993 E1M10000234D10 ECO100876 S1M10000006E02 SAU802496 E3M10000001H04 EFA201980 E1M10000234G10 ECO100886 S1M10000006F02 SAU802160 E3M10000001H04 EFA201981 E1M10000234B12 ECO104010 S1M1000006G02 SAU802125 E3M10000001H04 EFA205229 E1M10000235D01 ECO102233 S1M10000006A03 SAU802496 E3M10000001B05 EFA201993 E1M10000235D01 ECO102233 S1M10000006A03 SAU802496 E3M10000001B05 EFA201974 E1M10000235A03 ECO100798 S1M10000006B03 SAU801740 E3M10000001D05 EFA201975 E1M10000235H03 ECO103886 S1M10000006B03 SAU801740 E3M10000001G05 EFA201975 E1M10000235B06 ECO103886 S1M10000006E03 SAU801740 E3M10000001G05 EFA202001 E1M10000235B06 ECO103886 S1M10000006F03 SAU801256 E3M10000001G05 EFA202003 E1M10000235F06 ECO103886 S1M10000006G03 SAU801255 E3M10000001G05 EFA201028 E1M10000235B08 ECO103885 S1M10000006G03 SAU801139 E3M10000001F06 EFA201028 E1M10000235B08 ECO103885 S1M10000006A04 SAU801139 E3M10000001F09 EFA201987 E1M10000235B10 ECO103886 S1M10000006C04 SAU801164 E3M10000001E09 EFA201987 E1M10000235B10 ECO103886 S1M10000006C04 SAU801258 E3M10000001E09 EFA201987 E1M10000235F12 ECO103233 S1M10000006A05 SAU802224 E3M10000001E09 EFA205258 E1M10000235F12 ECO103234 S1M10000006C06 SAU80331 E3M10000001E09 EFA201985 E1M10000236E01 ECO100387 S1M10000006C06 SAU802323 E3M10000001E09 EFA201985 E1M10000236E01 ECO100387 S1M10000006C06 SAU800331 E3M10000004D01 EFA201985 E1M10000236E02 ECO103347 S1M10000006C06 SAU800331 E3M10000004D01 EFA201985 E1M10000236E02 ECO204942 S1M1000006G06 SAU800331 E3M10000004D01 EFA201985 E1M10000236E02 ECO204942 S1M1000006G06 SAU800366 E3M10000004D01 EFA202953 E |   |           |                |           |                |           |
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| E3M10000009E03   |                      |                |                        | <u> </u>                                | L         |
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| 1 1111111111111111111111111111111111111  | 800463 |
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| ESTITUTE OF THE PROPERTY OF TH |        |
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|                                       |                        | GI. N.                           | Cara                   | Clone Name                            | Gene      |
|---------------------------------------|------------------------|----------------------------------|------------------------|---------------------------------------|-----------|
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| E3M10000015B12                        | EFA201999<br>EFA201987 | E1M10000244E08                   | ECO100830              | S1M10000011101                        | SAU800517 |
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| E3M10000016A03                        | EFA201512              | E1M10000244E10                   | ECO305338              | S1M10000011E02                        | SAU802275 |
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| E3M10000016H05<br>E3M10000016F06      | EFA202001<br>EFA200544 | E1M10000244E12                   | ECO103244              | S1M10000011C03                        | SAU802713 |
| · · · · · · · · · · · · · · · · · · · | EFA200344<br>EFA201986 | E1M10000244112<br>E1M10000245C01 | ECO101259              | S1M10000011E03                        | SAU800453 |
| E3M10000016F10<br>E3M10000016F10      | EFA201980<br>EFA205255 | E1M10000245E02                   | ECO101255              | S1M10000011F03                        | SAU800593 |
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| E3M10000016H10                        | EFA205285              | E1M10000245H03                   | ECO100169              | S1M10000011G03                        | SAU801490 |
| E3M10000017A09                        | EFA203283              | E1M10000245H03                   | EC0101067              | S1M10000011H03                        | SAU800539 |
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| E3M10000021G04                        | EFA201974              | E1M10000245C11<br>E1M10000245C11 | ECO103242<br>ECO103243 | S1M10000011F06                        | SAU801230 |
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| E3M10000021B10                        | EFA201997              | I                                | I                      |                                       | SAU801471 |
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| E3M10000021G10                        | EFA201028              |                                  |                        | 1                                     |           |
| E3M10000021A11                        | EFA201981              |                                  | l                      | · · · · · · · · · · · · · · · · · · · | <u> </u>  |
| E3M10000021G11                        | EFA201997              |                                  |                        | L                                     |           |
| E3M10000021H11                        | EFA201997              |                                  |                        | 1                                     | l         |
| E3M10000022G02                        |                        |                                  |                        | 1                                     |           |
| E3M10000022A04                        | <u> </u>               |                                  |                        | l                                     | <u> </u>  |
| E3M10000022B04                        | L                      | ·                                | I                      |                                       | <u> </u>  |
| E3M10000022D04                        | l                      | 1                                |                        |                                       |           |
| E3M10000022B05                        |                        |                                  |                        |                                       | l         |
| E3M10000022B05                        |                        |                                  |                        | l                                     |           |
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| E3M10000022C05                        | l                      |                                  |                        |                                       |           |
| E3M10000022F05                        | 1                      |                                  |                        |                                       |           |
| E3M10000022C06                        | 1                      |                                  |                        |                                       | ·         |
| E3M10000022F06                        | 1                      |                                  |                        |                                       |           |
| E3M10000022F06                        | <u> </u>               | I                                | .1                     |                                       |           |
| E3M10000022B07                        | EFA202012              | E1M10000246C07                   | ECO103217              | S1M10000012D05                        | SAU800424 |

|                |           |                 | Cara                   | Clone Name      | Gene                   |
|----------------|-----------|-----------------|------------------------|-----------------|------------------------|
| Clone Name     | Gene      | Clone Name      | Gene<br>LocusID        | Clotte Ivaille  | LocusID                |
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| E3M10000022F08 | EFA201986 | E1M10000246A08  | ECO103372<br>ECO103243 | S1M10000012105  | SAU800546              |
| E3M10000022C09 | EFA201999 | E1M10000246D09  | ECO103243              | S1M10000012A06  | SAU800547              |
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| E3M10000022G12 | EFA202006 | E1M10000246F11  | ECO101259              | S1M10000012C00  | SAU801317              |
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| E3M10000023D02 | EFA200805 | E1M10000247G01  |                        | S1M10000012B07  | SAU802217              |
| E3M10000023F02 | EFA201985 | E1M10000247E02  | ECO103264              | S1M10000012D07  | SAU800543              |
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| E3M10000023E04 | EFA201985 | E1M10000247A06  | ECO103226              | S1M10000012A08  | SAU502176<br>SAU800537 |
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| E3M10000023B06 | EFA200811 | E1M10000247G07  | ECO103884              | S1M10000012E08  | SAU800173              |
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| E3M10000023C08 | EFA201974 | E1M10000247E11  | ECO204942              | S1M10000012H09  | SAU800974              |
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| E3M10000024A08 | EFA202001 | E1M10000248H08  |                        |                 |                        |
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|                |           |                 |                        |                 |                        |

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| E3M10000027D10 | EFAZUZUUC | ETIVITUUUU234DU  | 1 10010202.            | DIMITOGOODDI    |                 |

| Clone Name                       | ( <del>denie</del> l   |                |                                       |                  |                        |
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|                  |                        | Clara Nama     | Gene      | Clone Name     | Gene                   |
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|                 |                        |                    |            | Clara Noma       |                        |
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| E3M10000033E04  | EFA202006              | E1M10000266H04     |            | S1M10000018D03   | SAU802238              |
| E3M10000033F04  | EFA200515              | E1M10000266H05     | 1          | S1M10000018E03   | SAU800120              |
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| E3M10000033E03  | EFA200811              | E1M10000267E04     |            | <u> </u>         | SAU802244              |
| E3M10000033C05  | EFA200812              | E1M10000267A05     |            |                  | SAU802233              |
| E3M10000033C03  | EFA201981              | E1M10000267A05     |            |                  | SAU802328              |
| E3M10000033E05  | EFA202160              | E1M10000267B05     |            |                  | SAU800191              |
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| E3M10000033H07  | L                      | E1M10000267E17     |            |                  | L                      |
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|                 |                 | Clone Name                            | Gene                   | Clone Name                            | Gene                   |
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| Clone Name      | Gene<br>LocusID | Cione ivanne                          | LocusID                | Cione ramo                            | LocusID                |
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| E3M10000033E08  | EFA202180       | E1M10000267E12                        | ECO103223              | S1M10000018A08                        | SAU802247              |
| E3M10000033F08  | EFA201993       | E1M10000268D04                        | ECO103244              | S1M10000018C08                        | SAU802195              |
| E3M10000033G08  |                 | E1M10000268E04                        | ECO101685              | S1M10000018C08                        | SAU802194              |
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| E3M10000033C09  | EFA201970       | E1M10000268E07                        | ECO103227              | S1M10000018G08                        | SAU802586              |
| E3M10000033D09  | EFA201984       | E1M10000268E07                        | ECO103227              | S1M10000018G08                        | SAU802585              |
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| E3M10000033H09  | EFA201028       | E1M10000268D08                        |                        | S1M10000018R09                        | SAU801844              |
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| E3M10000033D10  | EFA200326       | E1M10000268E09                        | ECO103883              | S1M10000018C09                        | SAU801754              |
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| E3M10000033H11  | EFA202013       | E1M10000268G11                        | ECO102324              | S1M10000018G09                        | SAU802387<br>SAU800605 |
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| E3M10000033F12  | EFA200811       | E1M10000269D01                        | ECO103231              | S1M10000018A10                        | SAU801630              |
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| E3M10000034A02  | EFA200805       | E1M10000269H04                        |                        | S1M10000018F10                        | SAU800540              |
| E3M10000034B02  | EFA202217       | E1M10000269H04                        |                        | S1M10000018G10                        | SAU802244              |
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| E3M10000034C02  | EFA201163       | E1M10000269B05                        | I                      | S1M10000018H10                        | SAU800546              |
| E3M10000034D02  | EFA202013       | E1M10000269D05                        |                        | S1M10000018A11                        | SAU802246              |
| E3M10000034F02  | EFA201999       | E1M10000269H05                        |                        | S1M10000018A11                        | SAU802247              |
| E3M10000034G02  | EFA200805       | E1M10000269A06                        | 1                      | S1M10000018B11                        | SAU802100              |
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| E3M10000034H02  | EFA200240       | E1M10000269E07                        |                        |                                       | SAU802049              |
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| E3M10000034B04  |                 | E1M10000269G12                        |                        |                                       | SAU801630              |
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| E3M10000035B01  |                 | E1M10000271G03                        |                        |                                       | SAU802181              |
| E3M10000035C01  |                 | E1M10000271G03                        |                        |                                       | SAU801647              |
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| E3M10000035F02  | ·               |                                       | 1                      |                                       | l                      |
| E3M10000035G02  | EFA202013       | E1M10000271E05                        | ECO101257              | S1M10000019E02                        | SAU800607              |
|                 |                 | · · · · · · · · · · · · · · · · · · · |                        |                                       |                        |

| Clone Name                       | Gene      | Clone Name                       | Gene                   | Clone Name     | Gene                   |
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| E3M10000035C03                   | EFA202217 | E1M10000271G10                   | ECO102324              | S1M10000019B04 | SAU801812              |
| E3M10000035E03                   | EFA201984 | E1M10000271F11                   | ECO102636              | S1M10000019C04 | SAU802473              |
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| E3M10000035C04                   | EFA200418 | E1M10000272G03                   | ECO103878              | S1M10000019D05 | SAU801275              |
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| E3M10000035E04                   | EFA201987 | E1M10000272A04                   | ECO103221              | S1M10000019H05 | SAU802229              |
| E3M10000033G04<br>E3M10000035A05 | EFA201987 | E1M10000272F05                   | ECO103914              | S1M10000019H05 | SAU802228              |
| E3M10000033A03                   | J         | E1M10000272105<br>E1M10000272A06 | ECO103223              | S1M10000019A06 | SAU801605              |
| E3M10000035D05                   | L         | E1M10000272R00                   |                        | S1M10000019C06 | SAU802241              |
| E3M10000035E05                   | l         | E1M10000272B00<br>E1M10000272H07 | ECO100886              | S1M10000019C06 | SAU802240              |
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| E3M10000035E07                   | EFA202378 |                                  |                        |                | SAU801476              |
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| E3M10000035F08                   |           | E1M10000273D02                   | ECO103231<br>ECO103886 | l              | SAU802034<br>SAU800016 |
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| E3M10000035E11                   |           | E1M10000274H05                   |                        |                | SAU801193              |
| E3M10000035F11                   |           | L                                | •                      |                | SAU802226              |
| E3M10000035G11                   | EFA200418 | E1M10000274D06                   | ECO102556              | S1M10000020E01 | SAU801186              |

| Clone Name                       | Gene                   | Clone Name                        | Gene                                  | Clone Name     | Gene      |
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| E3M10000035H11                   | EFA200240<br>EFA200840 | E1M10000274F07                    | ECO102637                             | S1M10000020H01 | SAU802686 |
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| E3M10000036B01                   | EFA201807<br>EFA201982 | E1M10000274D10                    | ECO103000                             | S1M10000020D04 | SAU800324 |
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| E3M10000036A06                   | EFA200418              | E1M10000275D08                    |                                       | S1M10000020A08 | SAU600582 |
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| E3M10000036A09                   |                        | l                                 |                                       |                |           |
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| Clone Name     | Gene                   | Clone Name      | Gene                   | Clone Name                        | Gene                    |
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| E3M10000036D09 | EFA202012              | E1M10000312D02  | ECO100025              | S1M10000020D12                    | SAU801186               |
| E3M10000036F09 | EFA202274              | E1M10000312D02  | ECO100026              | S1M10000020E12                    | SAU801185               |
| E3M10000036H09 | EFA201999              | E1M10000312F03  | ECO103886              | S1M10000020F12                    | SAU801493               |
| E3M10000036A10 | EFA201987              | E1M10000312A04  | ECO103242              | S1M10000020G12                    | SAU801631               |
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| E3M10000036H10 | EFA200841              | E1M10000312E05  | ECO103224              | S1M10000021E02                    | SAU802585               |
| E3M10000036H10 | EFA203246              | E1M10000312E05  | ECO103240              | S1M10000021F02                    | SAU801760               |
| E3M10000036B11 | EFA203240<br>EFA202217 | E1M10000312807  | ECO103218              | S1M10000021D03                    | SAU801139               |
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| E3M10000037B03 | EFA202015              | E1M10000313H02  | ECO101684              |                                   | SAU800543<br>SAU800542  |
| E3M10000037D03 | EFA201165              | E1M10000313A03  | ECO101324<br>ECO103235 | S1M10000021B06<br>S1M10000021D06  | SAU801631               |
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| E3M10000037C06 | EFA202217              | E1M10000313F07  |                        | S1M10000021A08                    | SAU800719               |
| E3M10000037C06 | EFA202216              | E1M10000313G07  |                        | S1M10000021C08                    | SAU801439               |
| E3M10000037D06 | EFA205285              | E1M10000313G07  |                        |                                   | SAU801663               |
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| E3M10000037G06 | EFA202214              | E1M10000313F08  |                        | S1M10000021A09                    | SAU800366               |
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| E3M10000037E07 | EFA201987              | E1M10000314F01  |                        | S1M10000021A10                    | SAU801183               |
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| Clone Name                       | Gene                   | Clone Name      | Gene      | Clone Name                            | Gene         |
|----------------------------------|------------------------|-----------------|-----------|---------------------------------------|--------------|
| Cione Ivanic                     | LocusID                | Ciono i tumo    | LocusID   |                                       | LocusID      |
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| E3M10000037G08                   | EFA201869              | E1M10000314G05  | ECO103481 | S1M10000021C12                        | SAU800491    |
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| E3M10000037A10                   | EFA202015              | E1M10000314F06  | ECO103229 | S1M10000022A02                        | SAU801631    |
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| E3M10000038A03                   | EFA201601              | E1M10000315F04  | <u> </u>  | S1M10000022B06                        | SAU801663    |
| E3M10000038E03                   | EFA200457              | E1M10000315C05  | ·         | S1M10000022C06                        | SAU801892    |
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| E3M10000038H06                   |                        |                 |           |                                       |              |
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| E3M10000038A07                   |                        | <u> </u>        |           |                                       |              |
| E3M10000038B07                   | <u> </u>               |                 |           |                                       |              |
| E3M10000038C07<br>E3M10000038E07 |                        |                 |           | · · · · · · · · · · · · · · · · · · · | <u> </u>     |
|                                  |                        | <u> </u>        |           |                                       |              |
| E3M10000038F07                   | EFAZU1883              | ETIVITOUUSTOAUS | LCO103203 | 51111100000221310                     | 1 5710001104 |

| _ · _ ·        |                        |                |           |                  | <del></del>            |
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| E3M10000038A11 | EFA200421<br>EFA201981 | E1M10000277G03 | ECO102764 | S1M10000023H02   | SAU800528              |
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| E3M10000039A06 |                        |                | 1         | S1M10000023H09   | SAU802073              |
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| E3M10000039C06 | EFA202217              | E1M10000279F08 | ECO103624 | 51W10000023C10   | SAU002343              |

| Clone Name                       | Gene                   | Clone Name        | Gene       | Clone Name       | Gene        |
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| Cione Name                       | LocusID                | Cione i vanie     | LocusID    | 0.00.0           | LocusID     |
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| E3M10000039F06                   | EFA205225              | E1M10000279A09    | ECO103097  | S1M10000023E10   | SAU802130   |
| E3M10000039A07                   | EFA200326              | E1M10000279B09    | ECO103883  | S1M10000023F10   | SAU800591   |
| E3M10000039B07                   | EFA200290              | E1M10000279B09    | ECO103884  | S1M10000023H10   | SAU801618   |
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| E3M10000041D05  | EFA202108<br>EFA201983                | E1M10000302H11                        | ECO102473              | S1M10000025F09 | SAU800548                             |
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| L              |           | L                |                                       |                                   | -l                     |

|                 |           | Clara Nama     | Gene                   | Clone Name                        | Gene                   |
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| Clone Name      | Gene      | Clone Name     | LocusID                | Cione ivalue                      | LocusID                |
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|                 | L         | 1              |                        |                                   | J <del></del>          |

|                | Cara                   | Clone Name     | Gene      | Clone Name     | Gene                   |
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| E3M10000051E10 | EFA202160              | E1M10000290A02 | ECO101067 | S1M10000029G03 | SAU800006              |
| E3M10000051F10 | EFA202160              | E1M10000290A02 | ECO101068 | S1M10000029A04 | SAU801596              |
| E3M10000051H10 | EFA200421              | E1M10000290B02 | ECO102599 | S1M10000029A04 | SAU801597              |
| E3M10000051A11 | EFA202160              | E1M10000290B02 | ECO102600 | S1M10000029B04 | SAU802599              |
| E3M10000051D11 | EFA202211              | E1M10000290E02 | ECO101939 | S1M10000029F04 | SAU802649              |
| E3M10000051E11 | EFA201827              | E1M10000290F04 | ECO103226 | S1M10000029G04 | SAU802654              |
| E3M10000051F11 | EFA200179              | E1M10000290F05 | ECO103218 | S1M10000029B05 | SAU801362              |
| E3M10000051G11 | EFA201982              | E1M10000290D06 | ECO103559 | S1M10000029C05 | SAU800543              |
| E3M10000051F12 | EFA200805              | E1M10000290D06 | ECO103560 | S1M10000029D05 | SAU801354              |
| E3M10000050E01 | EFA200457              | E1M10000290D08 | ECO103064 | S1M10000029E05 | SAU801476              |
| E3M10000050G01 | EFA200179              | E1M10000290E08 | ECO102555 | S1M10000029G05 | SAU801253              |
| E3M10000050B03 | EFA202170              | E1M10000290E08 | ECO102556 | S1M10000029H05 | SAU800259              |
| E3M10000050B03 | EFA202168              | E1M10000290F08 | ECO102555 | S1M10000029B06 | SAU800006              |
| E3M10000050C03 | EFA200381              | E1M10000290F08 | ECO102556 | S1M10000029H06 | SAU800543              |
| E3M10000050C03 | EFA200382              | E1M10000290B09 | ECO102555 | S1M10000029C07 | SAU800759              |
| E3M10000050D03 | EFA200400              | E1M10000290B09 | ECO102556 | S1M10000029G07 | SAU800605              |
| E3M10000050D03 | EFA202608              | E1M10000290D10 | ECO103228 | S1M10000029B08 | SAU801621              |
| E3M10000050E03 | EFA200400              | E1M10000290E11 | ECO104090 | S1M10000029G08 | SAU801618              |
| E3M10000050E03 | EFA202608              | E1M10000290E11 | ECO104091 | S1M10000029H08 | SAU801139              |
| E3M10000050A04 | EFA202160              | E1M10000291E01 | ECO102852 | S1M10000029A09 | SAU801113              |
| E3M10000050E04 | EFA205285              | E1M10000291B02 | ECO103262 | S1M10000029C09 | SAU801113              |
| E3M10000050E04 | EFA201999              | E1M10000291B02 |           | S1M10000029D09 | SAU801113              |
| E3M10000050H08 | EFA205288              | E1M10000291B02 | ECO204942 | S1M10000029F09 | SAU802262              |
| E3M10000052C01 | EFA202110              |                |           | S1M10000029H09 | SAU801618              |
| E3M10000052F01 | EFA200457              |                |           |                | SAU800517              |
| E3M10000052C02 | EFA200805              |                | 1         |                | SAU202623              |
| E3M10000052D02 | EFA202170              |                |           |                | SAU801790              |
| E3M10000052G02 | EFA200457              |                |           |                | SAU800529              |
| E3M10000052B03 | EFA200239              |                |           |                | SAU801790              |
| E3M10000052E03 | EFA202378              |                |           | 1.             | SAU801139              |
| E3M10000052G03 | EFA200326              |                | -l        |                | SAU800266              |
| E3M10000052B04 | EFA200290              |                |           |                | SAU801139              |
|                | 1                      |                |           | l              | L                      |

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| Clara Name     | Cara            | Clone Name     | Gene      | Clone Name     | Gene      |
|----------------|-----------------|----------------|-----------|----------------|-----------|
| Clone Name     | Gene<br>LocusID | Cione Name     | LocusID   | Clone Ivalile  | LocusID   |
| E3M10000052F04 | EFA200310       | E1M10000291A06 | ECO103506 | S1M10000029A11 | SAU801263 |
| E3M10000032F04 | EFA200192       | E1M10000291B06 | ECO104090 | S1M10000029E11 | SAU801139 |
| E3M10000052G04 | EFA200198       | E1M10000291C06 | ECO103461 | S1M10000029F11 | SAU802714 |
| E3M10000032G04 | EFA200454       | E1M10000291D06 | ECO100102 | S1M10000029A12 | SAU801631 |
| E3M10000052D05 | EFA201888       | E1M10000291E07 | ECO103866 | S1M10000029C12 | SAU802070 |
| E3M10000052F05 | EFA202168       | E1M10000291A08 | ECO101221 | S1M10000029D12 | SAU801552 |
| E3M10000052G05 | EFA201926       | E1M10000291B08 | ECO103217 | S1M10000029F12 | SAU800253 |
| E3M10000052G06 | EFA202274       | E1M10000291B08 | ECO103218 | S1M10000029F12 | SAU800257 |
| E3M10000052H06 | EFA200805       | E1M10000291F08 | ECO103229 | S1M10000029G12 | SAU801138 |
| E3M10000052B07 | EFA202168       | E1M10000291B10 | ECO103881 | S1M10000030B01 | SAU802654 |
| E3M10000052F08 | EFA202378       | E1M10000291E10 | ECO101591 | S1M10000030D01 | SAU801113 |
| E3M10000052E09 | EFA201985       | E1M10000291D11 | ECO103263 | S1M10000030F01 | SAU801473 |
| E3M10000052E09 | EFA202953       | E1M10000291F11 | ECO100095 | S1M10000030H01 | SAU800543 |
| E3M10000052G09 | EFA200326       | E1M10000291G11 | ECO103264 | S1M10000030A02 | SAU801181 |
| E3M10000052F10 | EFA200239       | E1M10000291G11 | ECO103265 | S1M10000030B02 | SAU801515 |
| E3M10000052F10 | EFA200240       | E1M10000291H11 | ECO103262 | S1M10000030C02 | SAU802567 |
| E3M10000052D11 | EFA200898       | E1M10000291H11 | ECO103878 | S1M10000030D02 | SAU801515 |
| E3M10000052D12 | EFA202168       | E1M10000291H11 | ECO204942 | S1M10000030E02 | SAU801473 |
| 1008-H20       | ECO100023       | E1M10000291B12 | ECO103882 | S1M10000030H02 | SAU802452 |
| 1011-P20       | ECO100702       | E1M10000291F12 | ECO103243 | S1M10000030B03 | SAU802654 |
| 1053-37        | ECO101256       | E1M10000293B01 | ECO103885 | S1M10000030C03 | SAU800275 |
| 1053-37        | ECO202228       | E1M10000293B02 | ECO104093 | S1M10000030D03 | SAU801473 |
| 1010-C11       | ECO101324       | E1M10000293G02 | ECO103886 | S1M10000030G03 | SAU800542 |
| 1017-H1        | ECO304472       | E1M10000293A04 | ECO100402 | S1M10000030H03 | SAU800232 |
| 1067-16        | ECO102309       | E1M10000293B04 | ECO103886 | S1M10000030C04 | SAU800526 |
| 1083-27        | ECO102636       | E1M10000293A05 | ECO100095 | S1M10000030A05 | SAU800478 |
| 1065-12        | ECO102557       | E1M10000293E05 | ECO103223 | S1M10000030B05 | SAU801256 |
| 221-41         | ECO103884       | E1M10000293E05 | ECO103224 | S1M10000030C05 | SAU800526 |
| B17-6.O10      | ECO103884       | E1M10000293G05 | ECO103243 | S1M10000030D05 | SAU800759 |
| 910-B20        | ECO103884       | E1M10000293A06 | ECO101175 | S1M10000030D05 | SAU302793 |
| B18-2.N21      | ECO100148       | E1M10000293H06 | ECO102654 | S1M10000030G05 | SAU800776 |
| 971-B20        | ECO103240       | E1M10000293F07 | ECO101095 | S1M10000030G05 | SAU800777 |
| 971-B20        | ECO103241       | E1M10000293C08 | ECO101844 | S1M10000030H05 | SAU800179 |
| D1-1.A15       | ECO103394       | E1M10000293E08 | ECO101939 | S1M10000030D06 | SAU800189 |
| 4-28.1         | ECO101485       | E1M10000293G08 | ECO103101 | S1M10000030E06 | SAU801257 |
| D1-2.B13       | ECO102255       | E1M10000293B09 | ECO103181 | S1M10000030B07 | SAU802627 |
| D1-2.P21       | ECO102144       | E1M10000293G09 | ECO102144 | S1M10000030D07 | SAU800189 |
| Z56-D2         | ECO103911       | E1M10000293H09 | ECO100094 | S1M10000030G07 | SAU802247 |
| PJMF55         | ECO103264       | E1M10000293H09 | ECO100095 | S1M10000030H07 | SAU800525 |
| PJMF55         | ECO103265       | E1M10000293A11 | ECO103883 | S1M10000030C08 | SAU801831 |
| R1-15.A13      | ECO101995       | E1M10000293E11 | ECO103242 | S1M10000030F08 | SAU802231 |
| R1-19.H1       | ECO101104       | E1M10000293F11 | ECO104091 | S1M10000030F08 | SAU802230 |
| R1-55.M2       | ECO103884       | E1M10000293F11 | ECO104092 | S1M10000030G08 | SAU802250 |
| Z45-F11        | ECO103263       | E1M10000293C12 | ECO100170 | S1M10000030A09 | SAU801719 |
| Z8-B9          | ECO102033       | E1M10000293D12 | ECO103221 | S1M10000030B09 | SAU802654 |
| E1M10000007B04 | ECO102986       | E1M10000295D01 | ECO103228 | S1M10000030C09 | SAU800542 |
| 227-10         | ECO102562       | E1M10000295D01 | ECO103229 | S1M10000030D09 | SAU801139 |
| 709-F23        | ECO101506       | E1M10000295G01 | ECO103532 | S1M10000030F09 | SAU801904 |
| 801-C15        | ECO100488       | E1M10000295G01 | ECO103533 | S1M10000030G09 | SAU800542 |
| 801-C15        | ECO100490       | E1M10000295B02 | ECO101635 | S1M10000030H09 | SAU801644 |
| 801-C15        | ECO100491       | E1M10000295E02 | ECO103217 | S1M10000030A10 | SAU802309 |
| 801-H19        | ECO100488       | E1M10000295E02 |           | S1M10000030A10 | SAU802308 |
| 801-H19        | ECO100490       | E1M10000295F02 | ECO100169 | S1M10000030C10 | SAU800562 |

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| Clone Name             | Gene                   | Clone Name                       | Gene                   | Clone Name      | Gene                   |
|------------------------|------------------------|----------------------------------|------------------------|-----------------|------------------------|
| Cione Ivanie           | LocusID                | Olono I tullio                   | LocusID                |                 | LocusID                |
| 801-H19                | ECO100491              | E1M10000295H04                   | ECO100663              | S1M10000030D10  | SAU802601              |
| 804-P6                 | ECO102513              | E1M10000295A07                   | ECO100712              | S1M10000030F10  | SAU800019              |
| 807-D20                | ECO100366              | E1M10000295B07                   | ECO100179              | S1M10000030G10  | SAU800019              |
| 807-D20                | ECO100367              | E1M10000295B07                   | ECO100180              | S1M10000030H10  | SAU802654              |
| B13-17.G8              | ECO101111              | E1M10000295C07                   | ECO103224              | S1M10000030A11  | SAU800517              |
| B5-6.C8                | ECO101475              | E1M10000295C07                   | ECO103225              | S1M10000030A11  | SAU202623              |
| B5-6.C8                | ECO101475              | E1M10000295C07                   | ECO103226              | S1M10000030D11  | SAU800517              |
| B5-6.C8                | ECO201962              | E1M10000295D08                   | ECO103225              | S1M10000030D11  | SAU202623              |
| B8-2.D9                | ECO201302<br>ECO103461 | E1M10000295D08                   | ECO103226              | S1M10000030E11  | SAU802241              |
| B15-8.P13              | ECO103401              | E1M10000295F08                   | ECO103160              | S1M10000030G11  | SAU800811              |
| B15-8.P13              | ECO101328              | E1M10000295G08                   | ECO103217              | S1M10000030C12  | SAU801647              |
| T13-5.A2               | ECO101329              | E1M10000295G08                   | ECO103218              | S1M10000030C12  | SAU801646              |
|                        | ECO103039              | E1M10000295B09                   | ECO103216              | S1M10000030E12  | SAU800537              |
| T12-3.I11              | ECO102837              | E1M10000295B09                   | ECO103230              | S1M10000030G12  | SAU801526              |
| T20-15.D4<br>T20-15.D4 | ECO101475              | E1M10000295F09                   | ECO103881              | S1M10000033B01  | SAU802240              |
|                        | ECO101476<br>ECO201962 | E1M10000295F09                   | ECO103263              | S1M10000031H01  | SAU800023              |
| T20-15.D4              | ECO201902<br>ECO103059 | E1M10000295D10                   | EC0103203              | S1M10000031H01  | SAU802247              |
| T24-15.G6              |                        | E1M10000295H10                   | ECO103101<br>ECO103263 | S1M10000031E02  | SAU801912              |
| T24-17.C6              | ECO102857<br>ECO101763 | E1M10000295B11                   | ECO103203<br>ECO103229 | S1M10000031E02  | SAU802231              |
| 244.B12                | ECO101763<br>ECO101764 | E1M10000293B11<br>E1M10000295F11 | ECO103223              | S1M10000031F02  | SAU802230              |
| 244.B12                | ECO101764<br>ECO101765 | E1M10000295G12                   | ECO100934<br>ECO103494 | S1M10000031F02  | SAU802235              |
| 244.B12                | ECO101703<br>ECO100702 | E1M10000293G12<br>E1M10000312D11 | ECO103494<br>ECO104091 | S1M10000031G02  | SAU802234              |
| 1042-J1                |                        | E1M10000312D11                   | ECO104091<br>ECO104092 | S1M10000031G02  | SAU801355              |
| 1042-J1                | ECO100703<br>ECO102842 | E1M10000312D11<br>E1M10000296B01 | ECO104092<br>ECO102304 | S1M100000311102 | SAU802250              |
| 195.F5                 | L                      | E1M10000296B01                   | ECO102304<br>ECO102466 | S1M10000031A03  | SAU801134              |
| 25.D5                  | ECO103059              | E1M10000296C02                   | ECO102400<br>ECO102467 | S1M10000031E03  | SAU801135              |
| 25.D6                  | ECO103059              | E1M10000296C02                   | ECO102407              | S1M10000031E03  | SAU802240              |
| 177.F3                 | ECO102309              | E1M10000296D02                   | ECO103233              | S1M10000031F03  | SAU801505              |
| 525.H11                | ECO102857              |                                  | ECO103230<br>ECO103237 | S1M10000031G03  | SAU801303              |
| 632.N2                 | ECO104277              | E1M10000296D02                   |                        | S1M10000031A04  | SAU302892              |
| 633.B7                 | ECO103479              | E1M10000296H02                   | ECO102556              | S1M10000031A04  | SAU800543              |
| 671.I20                | ECO103478              | E1M10000296C03                   | ECO100150              | S1M10000031B04  | SAU800343<br>SAU800738 |
| 676.B12                | ECO103479              | E1M10000296C03                   | ECO100151              |                 | SAU800737              |
| 643.B19                | ECO100702              | E1M10000296E03                   | ECO101086              | S1M10000031C04  | SAU800737<br>SAU800542 |
| 720.O16                | ECO103884              | E1M10000296H03                   | ECO103227              | S1M10000031E04  |                        |
| 666.H12                | ECO103478              | E1M10000296H03                   | 1                      |                 | SAU801517              |
| 666.H12                | ECO103479              | E1M10000296D04                   |                        | S1M10000031F04  | SAU801516              |
| 98.D4                  | ECO103263              | E1M10000296G04                   | i                      | S1M10000031G04  | SAU302611              |
| 844.B21                | ECO102144              | E1M10000296F05                   | 1                      | S1M10000031G04  | SAU302882              |
| P31-25-F3              | ECO101686              | E1M10000296G05                   |                        |                 | SAU800548              |
| P335-8.H8              | ECO101041              | E1M10000296H05                   |                        |                 | SAU801526              |
| P347.2                 | ECO101086              | E1M10000296A06                   | L                      |                 | SAU800548              |
| P31-11-J20             | ECO103228              | E1M10000296A06                   |                        |                 | SAU600582              |
| P336-14.F20            | ECO101370              | E1M10000296G07                   |                        | <u> </u>        | SAU801760              |
| P31-27-M1              | ECO103423              | E1M10000296G07                   |                        |                 | SAU801181              |
| P338-4.M21             | ECO100139              | E1M10000296H07                   | 1                      |                 | SAU800016              |
| P334-8.L7              | ECO101256              | E1M10000296H07                   | 1                      | S1M10000031A08  | SAU802365              |
| P31-2-E16              | ECO101686              | E1M10000296E08                   | <u> </u>               |                 | SAU801790              |
| P335-3.J14             | ECO100523              | E1M10000296F08                   | 1                      | S1M10000031E08  | SAU800547              |
| P334-5.H2              | ECO100139              | E1M10000296G08                   |                        | S1M10000031F08  | SAU801264              |
| P31-33-N2              | ECO103241              | E1M10000296H08                   | 1                      |                 | SAU801193              |
| P332-11.C20            | ECO102827              | E1M10000296H08                   | i                      | S1M10000031D09  | SAU800019              |
| P332-11.C20            | ECO102828              | E1M10000296A09                   |                        |                 | SAU800006              |
| 869.A23                | ECO100390              | E1M10000296B11                   | ECO103229              | S1M10000031H09  | SAU801599              |

|                                  | Carro                  | Clone Name                       | Gene                   | Clone Name                       | Gene                   |
|----------------------------------|------------------------|----------------------------------|------------------------|----------------------------------|------------------------|
| Clone Name                       | Gene<br>LocusID        | Cione Name                       | LocusID                | Cione Ivanio                     | LocusID                |
| P317-2.A3                        | ECO101932              | E1M10000296B11                   | ECO103230              | S1M10000031A10                   | SAU800772              |
| P326-9.K2                        | ECO103292              | E1M10000296E11                   | ECO101684              | S1M10000031C10                   | SAU802654              |
| P326-9.K2                        | ECO103293              | E1M10000296F12                   | ECO101684              | S1M10000031E10                   | SAU800001              |
| P323-8.P1                        | ECO103233              | E1M10000296G12                   | ECO100095              | S1M10000031F10                   | SAU800244              |
| P35-8                            | ECO103692              | E1M10000298C01                   | ECO101438              | S1M10000031G10                   | SAU800962              |
| P36-13.E2                        | ECO103052              | E1M10000298G01                   | ECO104148              | S1M10000031A11                   | SAU801741              |
| P38-1.G20                        | ECO103039              | E1M10000298G01                   | ECO104149              | S1M10000031B11                   | SAU801908              |
| P327-50.M10                      | ECO102227              | E1M10000298G02                   | ECO102636              | S1M10000031C11                   | SAU802152              |
| P327-50.M10                      | ECO103242              | E1M10000298C03                   | ECO103238              | S1M10000031F11                   | SAU800312              |
| P328-8.D21                       | ECO103243              | E1M10000298C03                   | ECO103239              | S1M10000031G11                   | SAU801234              |
| P328-8.D21                       | ECO103240              | E1M10000298D03                   | ECO103886              | S1M10000031H11                   | SAU800962              |
| P328-20.P20                      | ECO100541              | E1M10000298H03                   | ECO103262              | S1M10000031B12                   | SAU801621              |
| P328-20.F20                      | ECO100341<br>ECO103227 | E1M10000298H03                   | ECO103878              | S1M10000031C12                   | SAU801741              |
| X3S107-17                        | ECO103227              | E1M10000298H03                   | ECO204942              | S1M10000031E12                   | SAU801275              |
| X3S107-17                        | ECO101476              | E1M10000298E04                   | ECO100430              | S1M10000031F12                   | SAU800244              |
| X3S107-17                        | ECO201962              | E1M10000298E04                   | ECO100431              | S1M10000032B01                   | SAU802654              |
| P35-7                            | ECO201902<br>ECO103928 | E1M10000298H04                   | ECO100809              | S1M10000032C01                   | SAU800548              |
| X3S118-9                         | ECO103928<br>ECO103263 | E1M10000298H04                   | ECO100808              | S1M10000032F01                   | SAU800525              |
| X3S163-1                         | ECO103203<br>ECO103423 | E1M10000298I104                  | ECO103234              | S1M10000032F01                   | SAU800524              |
| X3S204-7                         | ECO103423<br>ECO103238 | E1M10000298C05                   | ECO103235              | S1M10000032H01                   | .SAU802112             |
| X3S177-4                         | ECO103238              | E1M10000298C05                   | ECO103236              | S1M10000032H01                   | SAU802111              |
| P342-3                           | ECO101101              | E1M10000298D05                   | ECO101539              | S1M10000032E02                   | SAU801096              |
| SC21.1                           | ECO102104              | E1M10000298D05                   | ECO101540              | S1M10000032G02                   | SAU800830              |
| SC17.1                           | ECO103224<br>ECO102087 | E1M10000298D05                   | ECO101844              | S1M10000032G02                   | SAU800829              |
| SC13.1                           | ECO102087              | E1M10000298D06                   | ECO103886              | S1M10000032A03                   | SAU802686              |
| SC13.1                           | ECO101347              | E1M10000298G06                   | ECO100096              | S1M10000032F103                  | SAU800771              |
| MC9.6                            | ECO101348              | E1M10000298B07                   | EC0100095              | S1M10000032D03                   | SAU801235              |
| MC9.6                            | ECO102929              | E1M10000298D07                   | ECO100033              | S1M10000032E03                   | SAU802240              |
| Z60-P16                          | ECO102928              | E1M10000298G07                   | ECO102030              | S1M10000032G03                   | SAU801269              |
| Z86-I21                          | ECO103243<br>ECO103884 | E1M10000298G07                   | ECO103234              | S1M10000032C04                   | SAU800771              |
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|   |           |                 |           |                                  |                        |

| W O 02/07/103                    |             |                                       |                        | Clare NI-                               |                        |
|----------------------------------|-------------|---------------------------------------|------------------------|---|------------------------|
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|   |
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| E1M10000193A02  | ECO103832              | P1M10000051F01 | PAE201114 | S1M10000038G10   | SAU802247 |
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| LocusID  | Clara Nama     | Gene      | Clone Name     | Gene     | Clone Name     | Gene      |
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| ELIMI0000208H07   ECC020942   PIMI0000105C05   PAE204953   SIMI0000043H05   SAU801007   ELIMI0000208H10   ECC0103696   PIMI0000105C05   PAE204922   SIMI0000043H05   SAU801007   ELIMI0000208H10   ECC1033696   PIMI0000105C05   PAE204922   SIMI10000043H05   SAU801008   ELIMI0000208H10   ECC1033696   PIMI0000105H08   PAE200461   SIMI0000043H05   SAU801008   ELIMI0000208H10   ECC103365   PIMI0000105H08   PAE201694   SIMI0000043H05   SAU800167   ELIMI0000209H01   ECC103361   PIMI0000110E01   PAE201673   SIMI0000043H05   SAU800167   ELIMI0000209H02   ECC1016340   PIMI0000110F01   PAE201672   SIMI0000043H05   SAU800164   ELIMI0000209H02   ECC1016347   PIMI0000110F01   PAE201672   SIMI0000043H05   SAU800542   ELIMI0000209H02   ECC1032342   PIMI0000110F03   PAE202508   SIMI0000043E07   SAU801906   ELIMI0000209H05   ECC1003342   PIMI0000110F03   PAE204594   SIMI0000043E07   SAU801906   ELIMI00002099H05   ECC1003342   PIMI0000110F03   PAE204594   SIMI0000043E07   SAU801906   ELIMI00002099H06   ECC1003347   PIMI0000110F03   PAE204594   SIMI0000043F07   SAU801906   ELIMI00002099H06   ECC1003347   PIMI0000110F03   PAE204591   SIMI0000043F07   SAU800150   ELIMI00002099H06   ECC1003347   PIMI0000110F03   PAE204591   SIMI0000043F07   SAU800150   ELIMI0000209F06   ECC1003347   PIMI0000110F04   PAE200995   SIMI0000043F07   SAU800150   ELIMI0000209F10   ECC103347   PIMI0000110F04   PAE202693   SIMI0000043F07   SAU800150   ELIMI0000209F10   ECC103347   PIMI0000110F04   PAE202693   SIMI0000043F08   SAU801697   ELIMI0000209F11   ECC102828   PIMI0000110F04   PAE202693   SIMI0000043F08   SAU801697   ELIMI0000209F11   ECC102828   PIMI0000110F04   PAE202015   SIMI0000043F08   SAU801697   ELIMI0000209F11   ECC102828   PIMI0000110F04   PAE202015   SIMI0000043F08   SAU801697   ELIMI0000209F11   ECC103248   PIMI0000110F04   PAE202015   SIMI0000043F08   SAU801697   ELIMI0000209F11   ECC103248   PIMI0000110F04   PAE202015   SIMI0000043F08   SAU801697   ELIMI0000209F11   ECC103244   PIMI0000110F04   PAE202015   SIMI0000043F08   SAU801697   ELI   | Clone Name     | 1         | Clone Ivanic   |          |                |           |
| EIMI0000208F10   | E1M10000208H07 |           | P1M10000105C05 |          | S1M10000043G05 |           |
| EIMI0000208H10   |                |           |                |          |                | SAU801007 |
| EIMI0000208HI0   |                |           |                |          |                | SAU801008 |
| EIMI0000209B01   ECO103316   PIMI0000110500   PAE201674   SIMI0000043H06   SAU800117   EIMI0000209F02   ECO101684   PIMI0000110F01   PAE201672   SIMI0000043H06   SAU800156   EIMI0000209F02   ECO101684   PIMI0000110F01   PAE201672   SIMI0000043H07   SAU800542   EIMI0000209F02   ECO101307   PIMI00000110F01   PAE202608   SIMI0000043B07   SAU800542   EIMI0000209F02   ECO202164   PIMI00000110B02   PAE201494   SIMI0000043F07   SAU800546   EIMI0000209F05   ECO100324   PIMI00000110B03   PAE202350   SIMI0000043F07   SAU801096   EIMI0000209F05   ECO100324   PIMI0000110B03   PAE202350   SIMI0000043F07   SAU801096   EIMI0000209F05   ECO100632   PIMI0000110F03   PAE204580   SIMI0000043F07   SAU800104   EIMI0000209F0806   ECO100532   PIMI0000110F04   PAE200951   SIMI0000043F07   SAU800015   EIMI0000209F0806   ECO103549   PIMI0000110F04   PAE200951   SIMI0000043F07   SAU80015   EIMI0000209F10   ECO103587   PIMI0000110F04   PAE200095   SIMI0000043F08   SAU801207   EIMI0000209F10   ECO103587   PIMI0000110F04   PAE202683   SIMI0000043F08   SAU801207   EIMI0000209F11   ECO103878   PIMI0000110F04   PAE202015   SIMI0000043F08   SAU801697   EIMI0000209F11   ECO102897   PIMI0000110F04   PAE202015   SIMI0000043F08   SAU801697   EIMI0000209F11   ECO102898   PIMI0000110F04   PAE202397   SIMI0000043F08   SAU801697   EIMI0000209F11   ECO102898   PIMI0000110F04   PAE202397   SIMI0000043F09   SAU801697   EIMI0000209F11   ECO102898   PIMI0000110F05   PAE202397   SIMI0000043F09   SAU801475   EIMI0000209F11   ECO103248   PIMI0000110F05   PAE202397   SIMI0000043F09   SAU801434   EIMI0000210F05   ECO103248   PIMI0000110F06   PAE204036   SIMI0000043F09   SAU801434   EIMI0000210F05   ECO103248   PIMI0000110F06   PAE204035   SIMI0000043F09   SAU801239   EIMI0000210F05   ECO103248   PIMI0000110F09   PAE204035   SIMI0000043F09   SAU802314   EIMI0000210F05   ECO103248   PIMI0000110F09   PAE204035   SIMI0000043F09   SAU802350   EIMI0000210F05   ECO103248   PIMI0000010F06   PAE20497   SIMI0000043F09   SAU802472   EIMI0000210F05   ECO103248   PIMI00000   |                |           |                |          |                |           |
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| EIMI0000209H02   |                |           |                |          |                |           |
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| EIMI0000209D05   ECO103242   PIMI0000110B03   PAE202350   SIM10000043E07   SAU801193   EIMI00002099A06   ECO100332   PIMI0000110F03   PAE204911   SIM10000043F07   SAU80014   EIMI00002099A06   ECO103394   PIMI0000110D04   PAE200095   SIM10000043A08   SAU801181   EIMI0000209G10   ECO103361   PIMI0000110D04   PAE200095   SIM10000043B08   SAU802106   EIMI0000209G10   ECO103262   PIMI0000110D04   PAE202095   SIM10000043B08   SAU802206   EIMI0000209G10   ECO103362   PIMI0000110D04   PAE202633   SIM10000043B08   SAU802206   EIMI0000209G10   ECO204942   PIMI0000110D04   PAE202015   SIM10000043B08   SAU801697   EIMI0000209G10   ECO204942   PIMI0000110B05   PAE202015   SIM10000043B08   SAU801697   EIMI0000209E11   ECO102827   PIMI0000110B05   PAE202397   SIM10000043B09   SAU801475   EIMI0000209E11   ECO102828   PIMI0000110B05   PAE202397   SIM10000043F09   SAU802231   EIMI0000209E11   ECO102828   PIMI0000110B05   PAE202397   SIM10000043F09   SAU802231   EIMI0000210G02   ECO103243   PIMI0000110B05   PAE203293   SIM10000043F09   SAU802231   EIMI0000210G02   ECO103244   PIMI0000110B05   PAE204335   SIM10000043F09   SAU802231   EIMI0000210G02   ECO103244   PIMI0000110B08   PAE204036   SIM10000043G09   SAU8012585   EIMI0000210G05   ECO103886   PIMI0000110F08   PAE204036   SIM10000043G09   SAU8012585   EIMI0000210F08   ECO103886   PIMI0000110F09   PAE201213   SIM10000043G09   SAU8012585   EIMI0000210F08   ECO103886   PIMI0000110E09   PAE202012   SIM10000043B10   SAU8012585   EIMI0000210F08   ECO103481   PIMI00000110E09   PAE202012   SIM10000043B10   SAU8012585   EIMI0000210F08   ECO103233   PIMI0000110E09   PAE201213   SIM10000043B10   SAU8012585   EIMI0000210F08   ECO103233   PIMI0000098A03   PAE204213   SIM10000043B10   SAU801375   EIMI0000210F04   ECO103243   PIMI0000098A03   PAE204294   SIM10000043B10   SAU801354   EIMI0000211E04   ECO103243   PIMI0000098A03   PAE204294   SIM10000043B10   SAU801354   EIMI0000211F04   ECO103263   PIMI0000098A03   PAE204293   SIM10000043B11   SAU801354   EIMI0000211F04   ECO103263   PIMI00   |                |           |                |          | 3              | SAU801096 |
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| EIMI0000209A06         ECO100632         PIM10000110F03         PAE204911         SIM10000043P07         SAU800115           EIMI0000209H08         ECO103361         PIM10000110D04         PAE200095         SIM10000043B08         SAU801181           EIMI0000209G10         ECO103361         PIM10000110D04         PAE200091         SIM10000043B08         SAU802207           EIMI0000209G10         ECO103362         PIM10000110D04         PAE202083         SIM10000043B08         SAU802060           E1M10000209G10         ECO204942         PIM10000110F04         PAE202015         SIM10000043F08         SAU801697           E1M10000209E11         ECO102827         PIM10000110B05         PAE202337         SIM10000043F08         SAU801697           E1M10000209E11         ECO102828         PIM10000110B05         PAE2023397         SIM10000043F09         SAU801275           E1M10000210G02         ECO103243         PIM10000110B07         PAE206383         SIM10000043F09         SAU802230           E1M10000210G02         ECO103244         PIM10000110F08         PAE204036         SIM10000043G09         SAU801434           E1M10000210G05         ECO103481         PIM10000110E09         PAE201213         SIM10000043G09         SAU802590           E1M10000210G05         ECO103481         PIM  |                |           |                |          |                | SAU800014 |
| EIM10000209H08         ECO103344         PIM10000110D04         PAE200095         SIM10000043A08         SAU801181           EIM10000209G10         ECO103161         PIM10000110D04         PAE200091         SIM10000043B08         SAU802206           EIM10000209G10         ECO103362         PIM10000110D04         PAE202683         SIM10000043B08         SAU802206           EIM10000209G10         ECO103878         PIM10000110D04         PAE112443         SIM10000043B08         SAU801697           EIM10000209G11         ECO102827         PIM10000110B05         PAE202215         SIM10000043B09         SAU801697           EIM10000209E11         ECO102828         PIM10000110B05         PAE202329         SIM10000043B09         SAU801475           EIM10000210F02         ECO103243         PIM10000110B08         PAE204252         SIM10000043G09         SAU801434           EIM10000210F03         ECO103244         PIM10000110F08         PAE204036         SIM10000043G09         SAU801434           EIM10000210F03         ECO1032637         PIM10000110F09         PAE201213         SIM10000043H09         SAU801434           EIM10000210F03         ECO103481         PIM1000010F09         PAE201213         SIM10000043H09         SAU801631           EIM10000210F05         ECO103481         PIM1  | 1              |           |                |          |                |           |
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| EIMI0000209G10 ECO103828 PIM10000110D04 PAE202683 SIM10000043B08 SAU801697 EIMI0000209G10 ECO2034942 PIM10000110D04 PAE202015 SIM10000043B08 SAU801697 EIM10000209G11 ECO2034942 PIM100000110B05 PAE202397 SIM10000043F08 SAU801697 EIM10000209E11 ECO102828 PIM10000110B05 PAE202397 SIM10000043F09 SAU801235 EIM10000209D12 ECO100116 PIM100000110B05 PAE202829 SIM10000043F09 SAU802231 EIM10000210G02 ECO103243 PIM10000110B08 PAE202829 SIM10000043F09 SAU802230 EIM10000210G02 ECO103244 PIM10000110B08 PAE204025 SIM10000043F09 SAU802230 EIM10000210F03 ECO103244 PIM10000110F08 PAE204036 SIM10000043F09 SAU802230 EIM10000210F03 ECO103886 PIM10000110F08 PAE204036 SIM10000043F09 SAU802350 EIM10000210F03 ECO103886 PIM10000110E09 PAE202121 SIM10000043H09 SAU802590 EIM10000210F03 ECO103481 PIM10000110E09 PAE202121 SIM10000043H09 SAU802590 EIM10000210F05 ECO103481 PIM10000110E09 PAE2021214 SIM10000043H0 SAU802590 EIM10000210F07 ECC103233 PIM10000110E09 PAE20372 SIM10000043F10 SAU801375 EIM10000210E07 ECC103233 PIM10000110F09 PAE20372 SIM10000043F10 SAU802655 EIM10000210B10 ECO103481 PIM10000110F09 PAE20372 SIM10000043F10 SAU802655 EIM10000210B10 ECO103481 PIM1000010F01 PAE204877 SIM10000043F10 SAU802655 EIM10000210E07 ECC103233 PIM1000010F01 PAE204877 SIM10000043F10 SAU802655 EIM10000211E04 ECO104091 PIM10000098A02 PAE201862 SIM10000043F11 SAU802658 EIM10000211E04 ECO104092 PIM10000098A03 PAE204294 SIM10000043F11 SAU802658 EIM10000211F04 ECO10379 PIM10000098F04 PAE204293 SIM10000043F11 SAU801378 EIM10000211F04 ECO103878 PIM10000098F04 PAE204293 SIM10000043F11 SAU800134 EIM10000211F05 ECO103878 PIM10000098F04 PAE204293 SIM10000043F11 SAU800154 EIM10000211F05 ECO103878 PIM10000098F04 PAE204293 SIM10000043F11 SAU800154 EIM10000211F05 ECO10359 PIM10000098F04 PAE204293 SIM10000043F11 SAU80024F2 EIM10000211F05 ECO10359 PIM10000098F04 PAE204293 SIM10000044F01 SAU802184 EIM10000211F05 ECO10359 PIM10000098F04 PAE204293 SIM10000044F01 SAU802184 EIM10000211F05 ECO10359 PIM10000098F04 PAE204293 SIM10000044F01 SAU80218 EIM1000021205 ECO100582 PIM | 1              |           |                |          |                | SAU802207 |
| EIMI0000209G10 ECO103878 PIM10000110D04 PAE112443 SIM10000043E08 SAU801697 EIMI0000209E11 ECO102827 PIM10000110F04 PAE202015 SIM10000043F08 SAU801697 EIMI0000209E11 ECO102827 PIM10000110B05 PAE202397 SIM10000043F09 SAU801475 EIMI0000209E11 ECO102828 PIM10000110B05 PAE202397 SIM10000043F09 SAU801475 EIMI0000209D12 ECO100116 PIM10000110B07 PAE201633 SIM10000043F09 SAU802231 EIMI0000210G02 ECO103243 PIM10000110B07 PAE201633 SIM10000043F09 SAU802230 EIMI0000210G02 ECO103244 PIM10000110B08 PAE204036 SIM10000043F09 SAU802230 EIMI0000210F03 ECO103244 PIM10000110F08 PAE204036 SIM10000043F09 SAU802238 EIMI0000210F03 ECO103886 PIM10000110F09 PAE202012 SIM10000043F09 SAU802585 EIMI0000210F05 ECO103886 PIM10000110E09 PAE202012 SIM10000043F09 SAU802595 EIMI0000210G05 ECO103881 PIM10000110E09 PAE202012 SIM10000043F10 SAU801375 EIMI0000210F07 ECO103233 PIM100000110E09 PAE200372 SIM10000043F10 SAU801375 EIMI0000210B07 ECO103233 PIM100000110E09 PAE200372 SIM10000043F10 SAU8012585 EIMI0000210B07 ECO103233 PIM10000010F09 PAE200372 SIM10000043F10 SAU802559 EIMI0000210B07 ECO1032481 PIM10000010F09 PAE204877 SIM10000043F10 SAU802658 EIMI0000210B07 ECO103481 PIM10000010F09 PAE204877 SIM10000043F10 SAU802658 EIMI0000210B07 ECO103248 PIM10000010F09 PAE204877 SIM10000043F10 SAU802658 EIMI0000210B07 ECO103287 PIM10000098A02 PAE204199 SIM10000043F11 SAU800547 EIMI0000211E04 ECO104091 PIM10000098A03 PAE204294 SIM10000043F11 SAU802658 EIMI0000211E04 ECO104091 PIM10000098A03 PAE204293 SIM10000043F11 SAU802472 EIM10000211E04 ECO103267 PIM10000098F04 PAE204293 SIM10000043F11 SAU802472 EIM10000211E04 ECO103262 PIM10000098F04 PAE204293 SIM10000043F11 SAU802472 EIM10000211F05 ECO103378 PIM10000098F04 PAE204293 SIM10000043F11 SAU800247 EIM10000211A05 ECO103387 PIM10000098F04 PAE204293 SIM10000044D01 SAU802250 EIM10000211A05 ECO10388 PIM10000098F04 PAE204293 SIM10000044D01 SAU802178 EIM10000211A05 ECO10388 PIM10000098F04 PAE204293 SIM10000044D01 SAU802184 EIM10000211A05 ECO10388 PIM10000098F04 PAE204293 SIM10000044D01 SAU80218 EIM10000212B03 ECO100 |                |           |                | 1        | S1M10000043B08 | SAU802206 |
| EIMI0000209G10 ECO204942 PIMI0000110F04 PAE202015 SIMI0000043F08 SAU801475 EIMI0000209E11 ECO102827 PIMI00000110B05 PAE202397 SIMI0000043F09 SAU801475 E1MI0000209E11 ECO102828 PIMI00000110B05 PAE202393 SIMI0000043F09 SAU802231 EIMI0000209D12 ECO103243 PIMI00000110B07 PAE201633 SIMI0000043F09 SAU802230 EIMI0000210G02 ECO103243 PIMI0000110B08 PAE202495 SIMI0000043F09 SAU802230 EIMI0000210G02 ECO103244 PIMI0000110F08 PAE204036 SIMI0000043F09 SAU802230 EIMI0000210F03 ECO103244 PIMI0000110F08 PAE204036 SIMI0000043F09 SAU802230 EIMI0000210F03 ECO103244 PIMI0000110F08 PAE204036 SIMI0000043F09 SAU802590 EIMI0000210F05 ECO103886 PIMI0000110F09 PAE20212 SIMI0000043F09 SAU802590 EIMI0000210G05 ECO103481 PIMI0000110F09 PAE20212 SIMI0000043H09 SAU802590 EIMI0000210G05 ECO103481 PIMI0000110F09 PAE20213 SIMI0000043H10 SAU801375 EIMI0000210G05 ECO103481 PIMI0000110F09 PAE200372 SIMI0000043H10 SAU801375 EIMI0000210B01 ECO103233 PIMI0000110F09 PAE200372 SIMI0000043B10 SAU802655 EIMI0000210B10 ECO103481 PIMI000010F09 PAE200372 SIMI0000043B10 SAU802655 EIMI0000210B10 ECO103481 PIMI000010F01 PAE204877 SIMI0000043B10 SAU802655 EIMI0000211E04 ECO104091 PIMI0000098A02 PAE204497 SIMI0000043B10 SAU802658 EIMI0000211E04 ECO104091 PIMI0000098A03 PAE204294 SIMI0000043B11 SAU801578 EIMI0000211F04 ECO104092 PIMI0000098B02 PAE204119 SIMI0000043B11 SAU801678 EIMI0000211F04 ECO104092 PIMI0000098B03 PAE204294 SIMI0000043B11 SAU802678 EIMI0000211F05 ECO103578 PIMI0000098B04 PAE204294 SIMI0000043B11 SAU802472 EIMI0000211A05 ECO103578 PIMI0000098B04 PAE204294 SIMI0000043B11 SAU802472 EIMI0000211F05 ECO103579 PIMI0000098C07 PAE203505 SIMI0000043B11 SAU800247 EIMI0000211F05 ECO103589 PIMI0000098C07 PAE203505 SIMI0000043B12 SAU800247 EIMI0000211F05 ECO103242 PIMI0000098C07 PAE204294 SIMI0000044D01 SAU802215 EIMI0000211E05 ECO103589 PIMI0000098C07 PAE203505 SIMI0000044D01 SAU802250 EIMI0000212D05 ECO103589 PIMI0000098C07 PAE203505 SIMI0000044D01 SAU802250 EIMI0000212B03 ECO103242 PIMI0000098C07 PAE203505 SIMI0000044D01 SAU802250 EIMI0000212B03 ECO10384 |                |           |                |          |                | SAU801697 |
| E1M10000209B11 ECO102827 PIM10000110B05 PAE202397 S1M10000043B09 SAU801475 E1M10000209B11 ECO102828 PIM10000110B05 PAE202829 SIM10000043B09 SAU802231 E1M10000209D12 ECO100116 PIM10000110B07 PAE201633 SIM10000043F09 SAU802230 E1M10000210G02 ECO103243 PIM10000110B08 PAE200425 S1M10000043G09 SAU802230 E1M10000210G02 ECO103244 PIM10000110B08 PAE204036 S1M10000043G09 SAU802230 E1M10000210F03 ECO102637 PIM10000110F08 PAE204036 S1M10000043G09 SAU802230 E1M10000210F03 ECO103886 PIM10000110F09 PAE202112 SIM10000043H09 SAU80230 E1M10000210G05 ECO103886 PIM10000110E09 PAE201213 SIM10000043H09 SAU802590 E1M10000210G05 ECO103481 PIM10000110E09 PAE201214 S1M10000043H09 SAU801531 E1M10000210G05 ECO103333 PIM10000110E09 PAE20373 SIM10000043B10 SAU801535 E1M10000210B10 ECO103233 PIM10000110E09 PAE20373 SIM10000043B10 SAU801535 E1M10000210B10 ECO103233 PIM10000110F09 PAE20373 SIM10000043B10 SAU801595 E1M10000210B11 ECO103244 PIM1000010F01 PAE204877 SIM10000043B10 SAU801595 E1M10000210B11 ECO103244 PIM10000098A02 PAE204857 SIM10000043B10 SAU801595 E1M10000211B11 ECO101324 PIM10000098A02 PAE20493 SIM10000043B11 SAU801598 E1M10000211F04 ECO104091 PIM10000098A02 PAE204919 SIM10000043B11 SAU801631 E1M10000211F04 ECO104091 PIM1000098A03 PAE204993 SIM10000043B11 SAU801631 E1M10000211F04 ECO102637 PIM1000098B03 PAE20493 SIM10000043B11 SAU801631 E1M10000211F04 ECO102637 PIM10000098B04 PAE204293 SIM10000043B11 SAU801534 E1M10000211A05 ECO103378 PIM10000098G04 PAE204293 SIM10000043B12 SAU800176 E1M10000211A05 ECO103559 PIM10000098C05 PAE203505 SIM10000043B12 SAU800176 E1M10000211D05 ECO103242 PIM10000098B05 PAE204199 SIM10000043B12 SAU800184 E1M10000211A05 ECO103242 PIM10000098C05 PAE203305 SIM10000044B01 SAU802184 E1M10000211D05 ECO103243 PIM10000098C05 PAE203305 SIM10000044B01 SAU802183 E1M10000211C08 ECO103243 PIM10000098C05 PAE203305 SIM10000044D01 SAU802250 E1M10000212D05 ECO100185 PIM10000098C05 PAE203305 SIM10000044D01 SAU802250 E1M10000212D05 ECO103243 PIM10000098C05 PAE203305 SIM10000044D01 SAU802250 E1M10000212D05 ECO103249 PIM10 |                |           |                |          |                | SAU801697 |
| E1M10000219011 ECO102828 P1M10000110E0S PAE202829 S1M10000043F09 SAU802231 E1M1000029D112 ECO100116 P1M10000110B07 PAE201633 S1M10000043F09 SAU802230 E1M10000210G02 ECO103243 P1M10000110B08 PAE200425 S1M10000043G09 SAU801238 E1M10000210G02 ECO103244 P1M10000110F08 PAE204036 S1M10000043G09 SAU8012385 E1M10000210F03 ECO103886 P1M10000110A09 PAE20212 S1M10000043H09 SAU802590 E1M10000210B05 ECO103886 P1M10000110E09 PAE201213 S1M10000043H09 SAU801238 E1M10000210G05 ECO103881 P1M10000110E09 PAE201213 S1M10000043H09 SAU802590 E1M10000210G05 ECO103481 P1M10000110E09 PAE201214 S1M10000043B10 SAU801351 E1M10000210G05 ECO103481 P1M10000110E09 PAE201214 S1M10000043B10 SAU802555 E1M10000210E07 ECO103233 P1M10000110F09 PAE200372 S1M10000043B10 SAU802655 E1M10000210E07 ECO103234 P1M1000010F09 PAE200372 S1M10000043B10 SAU802655 E1M10000210E07 ECO103241 P1M1000010F09 PAE204877 S1M10000043B10 SAU8002655 E1M10000210E07 ECO103248 P1M10000010F09 PAE204877 S1M10000043G10 SAU800547 E1M10000211E04 ECO104981 P1M1000098802 PAE2041862 S1M10000043H10 SAU801631 E1M10000211E04 ECO104091 P1M1000098803 PAE204294 S1M10000043C11 SAU801758 E1M10000211E04 ECO104092 P1M1000009803 PAE204294 S1M10000043C11 SAU801758 E1M10000211F04 ECO104092 P1M1000098803 PAE204294 S1M10000043C11 SAU801758 E1M10000211F04 ECO104092 P1M1000098B04 PAE204294 S1M10000043C11 SAU801758 E1M10000211F05 ECO103262 P1M1000098B04 PAE204294 S1M10000043C12 SAU800277 E1M10000211A05 ECO103878 P1M1000098B04 PAE204294 S1M10000043C12 SAU800277 E1M10000211A05 ECO103878 P1M1000098B04 PAE204294 S1M10000043C12 SAU800277 E1M10000211F05 ECO103259 P1M1000098F07 PAE201101 S1M10000043D12 SAU800287 E1M10000211F05 ECO103259 P1M1000098F07 PAE204293 S1M10000043D12 SAU800287 E1M10000211F05 ECO103221 P1M1000098F07 PAE204293 S1M10000044D01 SAU802250 E1M10000212D05 ECO103221 P1M1000098F07 PAE204293 S1M10000044D01 SAU802250 E1M10000212D05 ECO103823 P1M10000098F07 PAE204293 S1M10000044D01 SAU802250 E1M10000212D05 ECO103823 P1M10000098F07 PAE204245 S1M10000044D01 SAU802250 E1M10000212D05 ECO103885 P1M10000 | 1              |           |                |          |                | SAU801475 |
| E1M10000209D12         ECO100116         P1M10000110B07         PAE201633         S1M10000043F09         SAU802230           E1M10000210G02         ECO103243         P1M10000110B08         PAE200425         SIM10000043G09         SAU801434           E1M10000210G02         ECO103244         P1M10000110F08         PAE204036         SIM10000043G09         SAU102385           E1M10000210F03         ECO103637         P1M10000110A09         PAE202012         SIM10000043H09         SAU802590           E1M10000210C05         ECO103481         P1M10000110E09         PAE201213         SIM10000043B10         SAU801631           E1M10000210C05         ECO103481         P1M10000110E09         PAE201214         SIM10000043B10         SAU801631           E1M10000210E07         ECO103233         P1M10000110E09         PAE200572         SIM10000043B10         SAU801559           E1M10000210B10         ECO101324         P1M10000010F01         PAE204877         SIM10000043G10         SAU800547           E1M10000211E04         ECO101324         P1M10000098A02         PAE204872         SIM10000043A11         SAU801631           E1M10000211E04         ECO104091         P1M10000098B02         PAE204119         SIM10000043A11         SAU801631           E1M10000211E04         ECO104092         P1M1  |                |           |                |          |                | SAU802231 |
| E1M10000210G02         ECO103244         P1M10000110B08         PAE200425         S1M10000043G09         SAU801434           E1M10000210F03         ECO103244         P1M10000110F08         PAE204036         SIM10000043G09         SAU102585           E1M10000210F03         ECO102637         P1M10000110E09         PAE202121         SIM10000043H09         SAU802590           E1M10000210F05         ECO103886         P1M10000110E09         PAE201213         SIM10000043H01         SAU801631           E1M10000210G05         ECO103481         P1M10000110E09         PAE201214         SIM10000043B10         SAU801375           E1M10000210G05         ECO103233         P1M10000110F09         PAE200372         SIM10000043B10         SAU801537           E1M10000210B10         ECO1032481         P1M10000110F09         PAE204877         SIM10000043B10         SAU801539           E1M10000211C02         ECO101259         P1M10000098B02         PAE204182         SIM10000043G10         SAU801531           E1M10000211C02         ECO101259         P1M10000098B02         PAE204119         SIM10000043G10         SAU801538           E1M10000211C04         ECO104091         P1M10000098B02         PAE204119         SIM10000043A11         SAU801538           E1M10000211A05         ECO103262         P1M  |                |           |                |          | S1M10000043F09 | SAU802230 |
| E1M10000210G02 EC0103244 P1M10000110F08 PAE204036 S1M10000043G09 SAU102585 E1M10000210F03 EC0103637 P1M10000110F09 PAE202012 S1M10000043H09 SAU802590 E1M10000210B05 EC0103886 P1M10000110E09 PAE201213 S1M10000043H09 SAU802590 E1M10000210G05 EC0103481 P1M10000110E09 PAE201214 S1M10000043B10 SAU801375 E1M10000210G05 EC0103481 P1M10000110E09 PAE20372 S1M10000043B10 SAU801375 E1M10000210E07 EC0103233 P1M10000110F09 PAE20372 S1M10000043B10 SAU801259 E1M10000210B10 EC0103481 P1M1000010F09 PAE200372 S1M10000043G10 SAU801259 E1M10000210B10 EC0101324 P1M1000098A02 PAE201862 S1M10000043G10 SAU800547 E1M10000211E04 EC0101324 P1M1000098A02 PAE204119 S1M10000043G10 SAU801631 E1M10000211E04 EC0104091 P1M10000098B02 PAE204119 S1M10000043G11 SAU801631 E1M10000211E04 EC0104091 P1M10000098A03 PAE204294 S1M10000043G11 SAU801631 E1M10000211F04 EC0102637 P1M10000098A03 PAE204294 S1M10000043H11 SAU801638 E1M10000211F04 EC0102637 P1M10000098A03 PAE204293 S1M10000043H11 SAU800548 E1M10000211F04 EC0102637 P1M10000098B02 PAE204293 S1M10000043H11 SAU800548 E1M10000211F05 EC0103262 P1M10000098B04 PAE204293 S1M10000043H11 SAU800548 E1M10000211F05 EC0103262 P1M10000098G04 PAE204294 S1M10000043H11 SAU800548 E1M10000211F05 EC0103559 P1M10000098G04 PAE204293 SIM10000043D12 SAU800176 E1M10000211F05 EC0101259 P1M10000098G06 PAE204293 SIM10000043D12 SAU800176 E1M10000211F05 EC0103559 P1M10000098G06 PAE203505 SIM10000043D12 SAU800287 E1M10000211F05 EC0103252 P1M10000098G06 PAE203494 SIM10000043D12 SAU800287 E1M100000212B03 EC0103243 P1M10000098G06 PAE203494 SIM10000044B01 SAU802251 E1M10000212B03 EC0103243 P1M10000098G06 PAE203495 SIM10000044B01 SAU802283 E1M100000212B03 EC0103243 P1M10000098G06 PAE203495 SIM10000044B01 SAU802283 E1M100000212B03 EC0103282 P1M10000098G06 PAE203495 SIM10000044B01 SAU802283 E1M100000212B03 EC0103885 P1M10000098G07 PAE20654 SIM10000044B01 SAU802283 E1M100000212B03 EC0103885 P1M10000098G07 PAE200357 SIM10000044B02 SAU802303 E1M100000212B02 EC0101688 P1M10000098G03 PAE200351 SIM10000044F02 SAU802303 E1M100000213B02 EC010 |                |           |                |          | S1M10000043G09 | SAU801434 |
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| E1M10000210805 ECO103886 PIM10000110E09 PAE201213 S1M10000043A10 SAU801631 E1M10000210C05 ECO103481 PIM10000110E09 PAE201214 S1M10000043B10 SAU801375 E1M10000210E07 ECO103233 PIM10000110E09 PAE106754 S1M10000043B10 SAU801259 E1M10000210E07 ECO103233 PIM10000110F09 PAE200372 S1M10000043E10 SAU801259 E1M10000210B10 ECO103481 PIM1000010F01 PAE204877 S1M10000043G10 SAU800547 E1M10000210B11 ECO103481 PIM10000098A02 PAE201862 S1M10000043G10 SAU800547 E1M10000211C02 ECO101259 PIM10000098A02 PAE20419 S1M10000043G11 SAU802658 E1M10000211E04 ECO104091 PIM10000098A03 PAE204294 S1M10000043A11 SAU801631 E1M10000211E04 ECO104092 PIM10000098A03 PAE204293 S1M10000043H11 SAU802472 E1M10000211F04 ECO102637 PIM10000098A03 PAE204293 S1M10000043H11 SAU802472 E1M10000211A05 ECO103262 P1M10000098E04 PAE204285 S1M10000043H11 SAU800548 E1M10000211A05 ECO103262 P1M10000098E04 PAE204294 S1M10000043H11 SAU800548 E1M10000211A05 ECO103262 P1M10000098E04 PAE204293 S1M10000043H12 SAU800217 E1M10000211A05 ECO103262 P1M10000098E04 PAE204294 S1M10000043B12 SAU800217 E1M10000211A05 ECO103262 P1M10000098E04 PAE204293 S1M10000043B12 SAU800217 E1M10000211A05 ECO103262 P1M10000098E04 PAE204293 S1M10000043B12 SAU800217 E1M10000211A05 ECO103262 P1M10000098E04 PAE204294 S1M10000043B12 SAU800217 E1M10000211A05 ECO103262 P1M10000098E04 PAE204294 S1M10000043B12 SAU800287 E1M10000211A05 ECO103259 P1M10000098E05 PAE203505 S1M10000043B12 SAU800287 E1M10000211E05 ECO101259 P1M1000098E05 PAE203109 S1M10000043D12 SAU800287 E1M1000021E05 ECO103224 P1M10000098E05 PAE203149 S1M10000044E01 SAU802184 E1M10000212B03 ECO103224 P1M10000098E05 PAE203149 S1M10000044B01 SAU802183 E1M10000212B03 ECO103224 P1M10000098E05 PAE203149 S1M10000044B01 SAU802183 E1M10000212B03 ECO103221 P1M10000098E05 PAE203157 S1M10000044B01 SAU802183 E1M10000212B03 ECO103221 P1M10000098E05 PAE203435 S1M10000044B01 SAU802250 E1M10000212B03 ECO10385 P1M10000098E05 PAE203455 S1M10000044B01 SAU802253 E1M10000212B03 ECO10385 P1M10000098E07 PAE200654 S1M10000044E02 SAU800367 E1M10000213B02 ECO101685 P1 | 1              |           |                |          |                | SAU802590 |
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| EIMI0000210E07         ECO103233         P1M10000110F09         PAE200372         S1M10000043E10         SAU801259           E1M10000210B10         ECO103481         P1M10000100F01         PAE204877         S1M10000043G10         SAU800547           E1M10000210B11         ECO101324         P1M10000098A02         PAE201862         S1M10000043H10         SAU802658           E1M10000211E04         ECO101259         P1M10000098A02         PAE204119         S1M10000043A11         SAU801631           E1M10000211E04         ECO104091         P1M10000098A03         PAE204294         S1M10000043C11         SAU801758           E1M10000211E04         ECO104092         P1M10000098A03         PAE204293         S1M10000043H11         SAU801758           E1M10000211E04         ECO102637         P1M10000098B03         PAE204293         S1M10000043H11         SAU800548           E1M10000211A05         ECO103262         P1M10000098E04         PAE204285         S1M10000043H11         SAU801756           E1M10000211A05         ECO103262         P1M10000098G04         PAE204294         S1M10000043B12         SAU800176           E1M10000211F05         ECO101359         P1M10000098G04         PAE201293         S1M10000043D12         SAU800217           E1M10000211F05         ECO101259         P1M1  | 1              |           |                |          |                |           |
| EIMI0000210B10         ECO103481         PIM10000100F01         PAE204877         SIM10000043G10         SAU800547           E1M10000210B11         ECO101324         P1M10000098A02         PAE201862         S1M10000043H10         SAU802658           E1M10000211C02         ECO101259         P1M10000098B02         PAE204119         S1M10000043A11         SAU801631           E1M10000211E04         ECO104091         P1M10000098A03         PAE204294         S1M10000043C11         SAU801758           E1M10000211E04         ECO104092         P1M10000098A03         PAE204293         S1M10000043C11         SAU802472           E1M10000211F04         ECO103637         P1M10000098B03         PAE204293         S1M10000043H11         SAU800548           E1M10000211A05         ECO103262         P1M10000098E04         PAE204285         S1M10000043H11         SAU800176           E1M10000211A05         ECO103878         P1M10000098E04         PAE204294         S1M10000043H11         SAU800176           E1M10000211C05         ECO101259         P1M10000098G04         PAE204293         S1M10000043H12         SAU800176           E1M10000211C08         ECO101259         P1M10000098C05         PAE201101         S1M10000043D12         SAU800542           E1M1000021C08         ECO103259         P1M10  | i i            |           |                |          |                | SAU801259 |
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| E1M10000211A05         ECO103262         P1M10000098E04         PAE204285         S1M10000043A12         SAU801354           E1M1000021A05         ECO103878         P1M10000098G04         PAE204294         S1M10000043B12         SAU800217           E1M1000021A05         ECO204942         P1M10000098G04         PAE204293         S1M10000043C12         SAU801760           E1M1000021F05         ECO101259         P1M10000098C05         PAE201101         S1M10000043D12         SAU800287           E1M1000021C06         ECO103559         P1M10000098C05         PAE203505         S1M10000043D12         SAU200106           E1M1000021C08         ECO100663         P1M10000098C05         PAE201449         S1M10000043E12         SAU800542           E1M10000212B03         ECO103220         P1M10000098C07         PAE201694         S1M10000044B01         SAU802183           E1M10000212B03         ECO103221         P1M10000098C07         PAE201694         S1M10000044B01         SAU802250           E1M10000212B03         ECO103221         P1M10000098C07         PAE200423         S1M10000044D01         SAU802250           E1M10000212B05         ECO100582         P1M10000098C07         PAE200425         S1M10000044D01         SAU802251           E1M10000212A08         ECO101994         P1M100000  |                |           |                |          |                | SAU800548 |
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|  | 1              |           | L              |          |                |           |
| - Limitocoming of Decision interpolated frameworks builting of Difference of Difference  | E1M10000213F07 | ECO104168 | <b>!</b>       |          | S1M10000044D04 | SAU802238 |

| Clone Name                       | Gene                   | Clone Name     | Gene      | Clone Name     | Gene      |
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| E1M10000229B03                   | ECO102744              | P1M10000107D10 | PAE204622 | S1M10000044C07 | SAU801644 |
| E1M10000229E03                   | ECO103237              | P1M10000107H10 | PAE204687 | S1M10000044C07 | SAU801643 |
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| E1M10000230F10                   | ECO103237              | S4M10000008H10 | STM102089 | S1M10000044H11 | SAU800367 |
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| E1M10000231A02<br>E1M10000231C02 | ECO102637<br>ECO103886 | S4M10000009G08 | STM103805 | S1M10000044D12 | SAU800766 |
| E1M10000231C02                   | ECO103886<br>ECO101259 | S4M10000009B11 | STM104223 | S1M10000045B01 | SAU802240 |
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| E1M10000231H04 | ECO101186   | S4M10000010H04       |                        |                |                        |
| E1M10000231B05 | ECO103221   | S4M10000010B05       |                        |                |                        |
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| E1M10000231D11 |             | S4M10000011F10       | _                      | S1M10000045A07 | SAU800566              |
| E1M10000231E11 |             | S4M10000011D11       | STM103418              | S1M10000045A07 | SAU800300<br>SAU802228 |
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| E1M10000214B02 |             | S4M10000014B05       | STM102090              | S1M10000045E08 | SAU801619              |
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| E1M10000214E03 | ECO101524   | S4M10000015E09       | STM102099              | S1M10000045C09 | SAU801144              |
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| E1M10000215B01 | ECO103911   | S4M10000022G07       |                        | S1M10000045B11 | SAU801517              |
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| E1M10000215H03 | ECO103263   |                      | STM103802              | S1M10000045A12 | SAU801593              |
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| ·                                | ECO104093              | S4M10000025E05                   | STM103802 | S1M10000045G12   | SAU801275              |
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| E1M10000215F08                   |                        | S4M10000025112<br>S4M10000026C01 | STM104666 | S1M10000046G01   | SAU800111              |
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| E1M10000215G09                   |                        | S4M10000026D04                   | STM100274 | S1M10000046H01   | SAU802111              |
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| E1M10000216C02                   | ECO103886              | S4M10000029B12                   | STM102090 | S1M10000046B03   | SAU800900<br>SAU801572 |
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| E1M10000216H05                   | ECO103237              | S4M10000034A06                   |           | S1M10000046G04   | SAU801375              |
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| E1M10000217B08                   |                        | S4M10000036B09                   | STM101116 | S1M10000046C08   | SAU800517              |
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| E1M10000217B08                   |                        | S4M10000036H11                   | STM104237 | S1M10000046E08   | SAU801241              |
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| Clone Name                       | Gene                   | Clone Name                       | Gene         | Clone Name                       | Gene                   |
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| E1M10000218A02                   | ECO103625              | S4M10000033G09                   | STM102422    | S1M10000046G10                   | SAU800545              |
| E1M10000218R02                   | ECO103953              | S4M10000033B10                   | STM102672    | S1M10000046H10                   | SAU800543              |
| E1M10000218B02                   | ECO101686              | S1M10000001D01                   | SAU800548    | S1M10000046A11                   | SAU800539              |
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| E1M10000221E01   | ECO103227                             | S1M10000003201  | SAU800607    | S1M10000047H08  | SAU802233              |
| E1M10000221E01   | ECO103227                             | S1M10000003F02  |              | S1M10000047A09  | SAU801139              |
| E1M10000221B02   |                                       | S1M10000003102  | SAU800542    | S1M10000047B09  | SAU800942              |
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| E1M10000224E05   |                                       | S1M10000003B09  | SAU800824    |                 | SAU801253              |
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| E1M10000225F04   | .l                                    | S1M10000003B1   |              |                 | I.                     |
| E1M10000225A06   |                                       |                 |              |                 |                        |
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| E1M10000225B00   | A                                     |                 |              |                 |                        |
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| E1M10000226D09   | ECO100431   | S1M10000004D07 |           |                         | SAU801263              |
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| E1M10000226E10   | ECO102714   | S1M10000004F07 |           |                         | SAU801184              |
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| E1M10000220F12   | ECO100975   | S1M10000004B08 |           | S1M10000048B06          | SAU801184              |
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| E1M10000227D09   |             | <u> </u>       |           |                         |                        |
| E1M10000227E11   |             |                |           |                         |                        |
| E1M10000227E11   | <u> </u>    |                |           |                         |                        |
| E1M10000227C12   |             |                |           |                         |                        |
| E1M10000227C12   |             |                |           |                         |                        |
| E1M10000227D12   |             |                |           |                         |                        |
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|                   | Gene      | Clone Name     | Gene      | Clone Name     | Gene      |
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| E1M10000232H02    | ECO103230 | S1M10000004G12 | SAU802496 | S1M10000048B10 | SAU800547 |
| E1M10000232A03    |           | S1M10000005701 | SAU802496 | S1M10000048C10 | SAU800367 |
| E1M10000232B03    | ECO101324 |                | SAU800996 | S1M10000048D10 | SAU802590 |
| E1M10000232H03    | ECO103097 | S1M10000005E01 |           | S1M10000048E10 | SAU802590 |
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| E1M10000232A08    | ECO100850 | S1M10000005F02 | SAU801643 | S1M10000048C11 | SAU802217 |
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| E1M10000233H03    | ECO103238 | S1M10000005F04 |           | S1M10000048D12 |           |
| E1M10000233H03    | ECO103239 | S1M10000005F04 |           |                | SAU800249 |
| E1M10000233C04    | ECO102309 | S1M10000005F04 | SAU800361 | S1M10000048G12 | SAU802251 |
| E1M10000233G04    | ECO101185 | S1M10000005C05 | SAU801264 |                |           |
| E1M10000233G04    | ECO102553 | S1M10000005D05 |           |                |           |
| LIMITOCOCCOOMOS   |           |                | ·         |                |           |

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Table IC provides a cross reference between PathoSeq Gene Loci listed in Table IB and the SEQ ID NOs. of the corresponding PathoSeq polypeptides and the SEQ ID NOs; of the nucleic acids which encode them. The Gene Locus IDs provided in Table IC each comprise a nine digit alpha-numeric identifier that can be used to determine the organism from which each Gene Locus and corresponding SEQ ID NOs. were identified. Specifically, the first letter of the Gene Locus ID corresponds to the first letter of the genus name of the organism described herein from which the Gene Locus was identified and the second and third letters of the Gene Locus ID correspond to the first two letters of the species name of this organism. For example, the identifier EFA205257 describes a gene locus identified from *Enterococcus faecalis*. In those instances where the three letter identifier is the same for different organisms, the exact identity of the organism which corresponds to the Gene Locus ID can be determined by referring to the organism designation in the sequence listing for the coding nucleic acid or polypeptide SEQ ID NO. that corresponds to the particular Gene Locus ID.

## TABLE IC

| DNA<br>SeqID | Protein<br>SeqID | Gene LocusID | DNA<br>SeqID | Protein<br>SeqID | Gene LocusID | DNA<br>SeqID | Protein<br>SeqID | Gene LocusID |
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| 6216         | 42400            | EFA205225    | 18278        | 54462            | CJU100855    | 30339        | 66523            | PAE203656    |
| 6217         | 42401            | EFA201977    | 18279        | 54463            | CJU100856    | 30340        | 66524            | PAE203658    |
| 6218         | 42402            | EFA203137    | 18280        | 54464            | CJU100859    | 30341        | 66525            | PAE203668    |
| 6219         | 42403            | EFA200840    | 18281        | 54465            | CJU100860    | 30342        | 66526            | PAE203670    |
| 6220         | 42404            | EFA202003    | 18282        | 54466            | СЈU100861    | 30343        | 66527            | PAE203672    |
| 6221         | 42405            | EFA200807    | 18283        | 54467            | СЈU100862    | 30344        | 66528            | PAE203677    |
| 6222         | 42406            | EFA200811    | 18284        | 54468            | CJU100863    | 30345        | 66529            | PAE203684    |
| 6223         | 42407            | EFA201987    | 18285        | 54469            | CJU100866    | 30346        | 66530            | PAE203691    |
| 6224         | 42408            | EFA201980    | 18286        | 54470            | CJU100870    | 30347        | 66531            | PAE203698    |
| 6225         | 42409            | EFA201981    | 18287        | 54471            | CJU100871    | 30348        | 66532            | PAE203722    |
| 6226         | 42410            | EFA205229    | 18288        | 54472            | CJU100872    | 30349        | 66533            | PAE203732    |
| 6227         | 42411            | EFA201028    | 18289        | 54473            | CJU100885    | 30350        | 66534            | PAE203735    |
| 6228         | 42412            | EFA201993    | 18290        | 54474            | CJU100886    | 30351        | 66535            | PAE203739    |
| 6229         | 42413            | EFA201974    | 18291        | 54475            | CJU100888    | 30352        | 66536            | PAE203740    |
| 6230         | 42414            | EFA201975    | 18292        | 54476            | CJU100890    | 30353        | 66537            | PAE203741    |
| 6231         | 42415            | EFA202001    | 18293        | 54477            | CJU100891    | 30354        | 66538            | PAE203742    |
| 6232         | 42416            | EFA200839    | 18294        | 54478            | CJU100896    | 30355        | 66539            | PAE203743    |
| 6233         | 42417            | EFA201985    | 18295        | 54479            | СЈU100903    | 30356        | 66540            | PAE203744    |
| 6234         | 42418            | EFA201984    | 18296        | 54480            | CJU100923    | 30357        | 66541            | PAE203751    |
| 6235         | 42419            | EFA202953    | 18297        | 54481            | CJU100925    | 30358        | 66542            | PAE203754    |
| 6236         | 42420            | EFA202022    | 18298        | 54482            | CJU100929    | 30359        | 66543            | PAE203755    |
| 6237         | 42421            | EFA202028    | 18299        | 54483            | СЈU100938    | 30360        | 66544            | PAE203757    |
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| 6239         | 42423            | EFA200412    | 18301        | 54485            | CJU100951    | 30362        | 66546            | PAE203760    |
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| 6255         | 42439            | EFA201986    | 18317        | 54501            | CJU100999    | 30378        | 66562            | PAE203850    |
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| 6257         | 42441            | EFA200495    | 18319        | 54503            | CJU101007    | 30380        | 66564            | PAE203871    |
| 6258         | 42442            | EFA104836    | 18320        | 54504            | CJU101011    | 30381        | 66565            | PAE203872    |
| 6259         | 42443            | EFA201976    | 18321        | 54505            | CJU101017    | 30382        | 66566            | PAE203887    |
| 6260         | 42444            | EFA201523    | 18322        | 54506            | СЛИ101021    | 30383        | 66567            | PAE203888    |
| 6261         | 42445            | EFA202012    | 18323        | 54507            | CJU101022    | 30384        | 66568            | PAE203892    |
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| 6265         | 42449            | EFA205285    | 18327        | 54511            | CJU101031    | 30388        | 66572            | PAE203911    |

| wo    | 02/077183 |              |       |                |              |       | PCT/US  | 02/09107     |
|-------|-----------|--------------|-------|----------------|--------------|-------|---------|--------------|
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| 6408         | 42592     | ECO101256              | 18470 | 54654   | CJU101595              | 30531 | 66715   | PAE204724              |
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| WU    | 02/07/183 | ,                      |       |         | _                      |       | PC 1/US | 002/0910/              |
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| wo           | 02/077183      |                        |                |                |                        |                | PCT/US            | 02/09107               |
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| DNA          | Protein        | Gene LocusID           | DNA            | Protein        | Gene LocusID           | DNA            | Protein           | Gene LocusID           |
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| 6766         | 42950          | ECO102175              | 18828          | 55012          | CTR100036              | 30889          | 67073             | PMU100719              |
| 6767         | 42951          | ECO102554              | 18829          | 55013          | CTR100067              | 30890          | 67074             | PMU100720              |
| 6768         | 42952          | ECO100169              | 18830          | 55014          | CTR100083              | 30891          | 67075             | PMU100722              |
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| 6770         | 42954          | ECO103886              | 18832          | 55016          | CTR100201              | 30893          | 67077             | PMU100729              |
| 6771         | 42955          | ECO103466              | 18833          | 55017          | CTR100305              | 30894          | 67078             | PMU100730              |
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| 6773         | 42957          | ECO100464              | 18835<br>18836 | 55019<br>55020 | CTR100444<br>CTR100467 | 30896<br>30897 | 67080<br>67081    | PMU100734<br>PMU100736 |
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| 6781         | 42965          | ECO100633              | 18843          | 55027          | CTR100725              | 30904          | 67088             | PMU100759              |
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| 6789         | 42973          | ECO100095              | 18851          | 55035          | CTR200001              | 30912          | 67096             | PMU100781              |
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| 6793         | 42977          | ECO100465              | 18855          | 55039          | CTR200018              | 30916          | 67100             | PMU100802              |
| 6794         | 42978          | ECO101203              | 18856          | 55040          | CTR200019              | 30917          | 67101             | PMU100804              |
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| 6797         | 42981          | ECO100170              | 18859          | 55043          | CTR200033              | 30920          | 67104             | PMU100817              |
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| 6808         | 42991          | ECO102834<br>ECO101185 | 18870          | 55054          | CTR200057<br>CTR200061 | 30930          | 67114             | PMU100864              |
| 6809         | 42993          | ECO101186              | 18871          | 55055          | CTR200061              | 30931          | 67116             | PMU100865              |
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| 6812         | 42996          | ECO102274              | 18874          | 55058          | CTR200070              | 30935          | 67119             | PMU100873              |
| 6813         | 42997          | ECO104181              | 18875          | 55059          | CTR200074              | 30936          | 67120             | PMU100874              |
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| 6815         | 42999          | ECO103669              | 18877          | 55061          | CTR200077              | 30938          | 67122             | PMU100876              |
|              |                | •                      |                | 304            | •                      |                |                   |                        |

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|--------------|------------------|------------------------|----------------|------------------|------------------------|----------------|------------------|------------------------|
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| 6818         | 43002            | ECO104183              | 18880          | 55064            | CTR200087              | 30941          | 67125            | PMU100887              |
| 6819         | 43003            | ECO103366              | 18881          | 55065            | CTR200088              | 30942          | 67126            | PMU100893              |
| 6820         | 43004            | ECO102294              | 18882          | 55066            | CTR200096              | 30943          | 67127            | PMU100894              |
| 6821         | 43005            | ECO102295              | 18883          | 55067            | CTR200100              | 30944          | 67128            | PMU100897              |
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| 6825         | 43009            | ECO101467              | 18887          | 55071            | CTR200105              | 30948          | 67132            | PMU100915              |
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| 6827         | 43011            | ECO101139              | 18889          | 55073            | CTR200114              | 30950          | 67134            | PMU100920              |
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| 6829         | 43013            | ECO100468              | 18891          | 55075            | CTR200123              | 30952          | 67136            | PMU100936              |
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| 6833         | 43017            | ECO103536              | 18895          | 55079            | CTR200130              | 30956          | 67140            | PMU100948              |
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| 6844         | 43028            | ECO100193              | 18906          | 55090            | CTR200163              | 30967          | 67151            | PMU100998              |
| 6845         | 43029            | ECO100194              | 18907          | 55091            | CTR200164              | 30968          | 67152            | PMU101002              |
| 6846         | 43030            | ECO101196              | 18908          | 55092            | CTR200165              | 30969          | 67153            | PMU101007              |
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| 6849         | 43033            | ECO100777              | 18911          | 55095            | CTR200173              | 30972          | 67156            | PMU101011              |
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| 6858         | 43042            | ECO100652              | 18920          | 55104            | CTR200202              | 30981          | 67165            | PMU101041              |
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| 6860<br>6861 | 43044<br>43045   | ECO103076<br>ECO103641 | 18922<br>18923 | 55106<br>55107   | CTR200203              | 30983<br>30984 | 67167<br>67168   | PMU101059              |
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| 6865         | 43049            | ECO100005<br>ECO100435 | 18927          | 55111            | CTR200214              | 30988          | 67172            | PMU101067              |
| 6866         | 43050            | ECO101066              | 18928          | 55112            | CTR200217              | 30989          | 67173            | PMU101068              |
| 6867         | 43051            | ECO103607              | 18929          | 55113            | CTR200217              | 30990          | 67174            | PMU101069              |
| 6868         | 43052            | ECO102057              | 18930          | 55114            | CTR200219              | 30991          | 67175            | PMU101070              |
| 6869         | 43053            | ECO101953              | 18931          | 55115            | CTR200223              | 30992          | 67176            | PMU101074              |
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| 6874  | 43058     | ECO100469              | 18936 | 55120          | CTR200240              | 30997  | 67181   | PMU101092              |
| 6875  | 43059     | ECO100683              | 18937 | 55121          | CTR200250              | 30998  | 67182   | PMU101098              |
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| 6877  | 43061     | ECO103403<br>ECO204900 | 18939 | 55122          | CTR200266              | 31000  | 67184   | PMU101102              |
|       |           | ECO204900<br>ECO103030 | 18940 |                | CTR200267              | 31000  | 67185   | PMU101104              |
| 6878  | 43062     |                        |       | 55124<br>55125 |                        | 31001  |         | · ·                    |
| 6879  | 43063     | ECO102999              | 18941 | 55125          | CTR200272              |        | 67186   | PMU101107              |
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| 6882  | 43066     | ECO103848              | 18944 | 55128          | CTR200284              | 31005  | 67189   | PMU101115              |
| 6883  | 43067     | ECO102113              | 18945 | 55129          | CTR200286              | 31006  | 67190   | PMU101120              |
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| 6889  | 43073     | ECO201249              | 18951 | 55135          | CTR200293              | 31012  | 67196   | PMU101150              |
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| 6893  | 43077     | ECO104164              | 18955 | 55139          | CTR200309              | 31016  | 67200   | PMU101161              |
| 6894  | 43078     | ECO104165              | 18956 | 55140          | CTR200310              | 31017  | 67201   | PMU101162              |
| 6895  | 43079     | ECO101423              | 18957 | 55141          | CTR200313              | 31018  | 67202   | PMU101163              |
| 6896  | 43080     | ECO102736              | 18958 | 55142          | CTR200319              | 31019  | 67203   | PMU101165              |
| 6897  | 43081     | ECO102737              | 18959 | 55143          | CTR200322              | 31020  | 67204   | PMU101166              |
| 6898  | 43082     | ECO103723              | 18960 | 55144          | CTR200327              | 31021  | 67205   | PMU101170              |
| 6899  | 43083     | ECO103724              | 18961 | 55145          | CTR200328              | 31022  | 67206   | PMU101172              |
| 6900  | 43084     | ECO100394              | 18962 | 55146          | CTR200330              | 31023  | 67207   | PMU101173              |
| 6901  | 43085     | ECO100395              | 18963 | 55147          | CTR200334              | 31024  | 67208   | PMU101175              |
| 6902  | 43086     | ECO104144              | 18964 | 55148          | CTR200341              | 31025  | 67209   | PMU101177              |
| 6903  | 43087     | ECO103097              | 18965 | 55149          | CTR200341              | 31026  | 67210   | PMU101178              |
| 6904  | 43088     | ECO103797              | 18966 | 55150          | CTR200355              | 31027  | 67211   | PMU101179              |
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| 6906  | 43090     | ECO100875              | 18968 | 55151          | CTR200361              | 31029  | 67213   | PMU101183              |
| 6907  | 43091     | ECO100373              | 18969 | 55152          | CTR200362              | 31025  | 67214   | PMU101184              |
| 6908  | 43092     | ECO103185              | 18970 | 55154          | CTR200363              | 31030  | 67215   | PMU101193              |
| 6909  | 43092     | ECO103183              | 18971 | 55155          | CTR200365              | 31031  | 67216   | PMU101195              |
| 6910  | 43093     | ECO103181<br>ECO103844 | 18971 | 55156          | CTR200366              | 31032  | 67217   | PMU101197              |
| 6911  | 43095     | ECO103844<br>ECO103055 | 18972 | 55157          | CTR200367              | 31033  | 67218   | PMU101209              |
| 6912  | 43096     | ECO103033<br>ECO100876 | 18974 | 55158          | CTR200370              | 31035  | 67219   | PMU101214              |
| 6913  | 43090     | ECO100870<br>ECO102233 | 18974 | 55158          | CTR200370<br>CTR200373 | 31033  | 67220   | PMU101214<br>PMU101219 |
|       |           |                        | !     |                |                        |        |         | PMU101219              |
| 6914  | 43098     | ECO101848              | 18976 | 55160          | CTR200374              | 31037  | 67221   |                        |
| 6915  | 43099     | ECO103482              | 18977 | 55161          | CTR200380              | 31038  | 67222   | PMU101232              |
| 6916  | 43100     | ECO102299              | 18978 | 55162          | CTR200383              | 31039  | 67223   | PMU101233              |
| 6917  | 43101     | ECO102655              | 18979 | 55163          | CTR200393              | 31040  | 67224   | PMU101234              |
| 6918  | 43102     | ECO103186              | 18980 | 55164          | CTR200394              | 31041  | 67225   | PMU101235              |
| 6919  | 43103     | ECO103510              | 18981 | 55165          | CTR200395              | 31042  | 67226   | PMU101236              |
| 6920  | 43104     | ECO103182              | 18982 | 55166          | CTR200396              | 31043  | 67227   | PMU101238              |
| 6921  | 43105     | ECO101355              | 18983 | 55167          | CTR200398              | 31044  | 67228   | PMU101239              |
| 6922  | 43106     | ECO101830              | 18984 | 55168          | CTR200408              | 31045  | 67229   | PMU101240              |
| 6923  | 43107     | ECO102267              | 18985 | 55169          | CTR200416              | 31046  | 67230   | PMU101241              |
| 6924  | 43108     | ECO103216              | 18986 | 55170          | CTR200421              | 31047  | 67231   | PMU101242              |
| 6925  | 43109     | ECO101844              | 18987 | 55171          | CTR200422              | 31048  | 67232   | PMU101260              |

| wo           | 02/077183        | <b>,</b>               |                |                  |                        |                | PCT/US           | 602/09107              |
|--------------|------------------|------------------------|----------------|------------------|------------------------|----------------|------------------|------------------------|
| DNA<br>SeqID | Protein<br>SeqID | Gene LocusID           | DNA<br>SeqID   | Protein<br>SeqID | Gene LocusID           | DNA<br>SeqID   | Protein<br>SeqID | Gene LocusID           |
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| 6927         | 43111            | ECO102061              | 18989          | 55173            | CTR200448              | 31050          | 67234            | PMU101264              |
| 6928         | 43112            | ECO103514              | 18990          | 55174            | CTR200449              | 31051          | 67235            | PMU101271              |
| 6929         | 43113            | ECO101939              | 18991          | 55175            | CTR200450              | 31052          | 67236            | PMU101272              |
| 6930         | 43114            | ECO104147              | 18992          | 55176            | CTR200453              | 31053          | 67237            | PMU101275              |
| 6931         | 43115            | ECO100195              | 18993          | 55177            | CTR200454              | 31054          | 67238            | PMU101284              |
| 6932         | 43116            | ECO101628              | 18994          | 55178            | CTR200455              | 31055          | 67239            | PMU101285              |
| 6933         | 43117            | ECO102213              | 18995          | 55179            | CTR200458              | 31056          | 67240            | PMU101287              |
| 6934         | 43118            | ECO104242              | 18996          | 55180            | CTR200459              | 31057          | 67241<br>67242   | PMU101288<br>PMU101289 |
| 6935<br>6936 | 43119<br>43120   | ECO104187<br>ECO102425 | 18997<br>18998 | 55181<br>55182   | CTR200463<br>CTR200472 | 31058<br>31059 | 67242            | PMU101289<br>PMU101290 |
| 6937         | 43120            | ECO102423<br>ECO100198 | 18999          | 55183            | CTR200472              | 31059          | 67244            | PMU101296              |
| 6938         | 43121            | ECO100198<br>ECO101258 | 19000          | 55183            | CTR200474              | 31061          | 67245            | PMU101297              |
| 6939         | 43123            | ECO101238<br>ECO101232 | 19001          | 55185            | CTR200481              | 31062          | 67246            | PMU101298              |
| 6940         | 43124            | ECO101232              | 19002          | 55186            | CTR200500              | 31063          | 67247            | PMU101336              |
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| 6942         | 43126            | ECO102593              | 19004          | 55188            | CTR200502              | 31065          | 67249            | PMU101343              |
| 6943         | 43127            | ECO101089              | 19005          | 55189            | CTR200503              | 31066          | 67250            | PMU101347              |
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| 6953         | 43137            | ECO101152              | 19015          | 55199            | CTR200533              | 31076          | 67260            | PMU101380              |
| 6954<br>6955 | 43138<br>43139   | ECO101153<br>ECO103488 | 19016          | 55200<br>55201   | CTR200535              | 31077          | 67261<br>67262   | PMU101381              |
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| 6958         | 43142            | ECO102007<br>ECO101987 | 19020          | 55204            | CTR200551              | 31080          | 67265            | PMU101391              |
| 6959         | 43143            | ECO100453              | 19021          | 55205            | CTR200556              | 31082          | 67266            | PMU101392              |
| 6960         | 43144            | ECO101372              | 19022          | 55206            | CTR200558              | 31083          | 67267            | PMU101393              |
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| 6971         | 43155            | ECO100557              | 19033          | 55217            | CTR200584              | 31094          | 67278            | PMU101404              |
| 6972<br>6973 | 43156<br>43157   | ECO103452<br>ECO100885 | 19034<br>19035 | 55218<br>55219   | CTR200585<br>CTR200586 | 31095          | 67279<br>67280   | PMU101405              |
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| 6976         | 43159            | ECO101183<br>ECO101381 | 19037          | 55222            | CTR200588              | 31098          | 67283            | PMU101408<br>PMU101409 |
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| 6978         | 43162            | ECO100069              | 19040          | 55224            | CTR200597              | 31101          | 67285            | PMU101411              |
| 6979         | 43163            | ECO100668              | 19041          | 55225            | CTR200601              | 31102          | 67286            | PMU101412              |
| 6980         | 43164            | ECO100669              | 19042          | 55226            | CTR200602              | 31102          | 67287            | PMU101413              |
|              |                  | •                      |                |                  |                        |                |                  |                        |

| wo           | 02/077183      |                        |                |                |                        |                | PCT/US         | 02/09107               |
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| 6983         | 43167          | ECO100362              | 19045          | 55229          | CTR200605              | 31106          | 67290          | PMU101416              |
| 6984         | 43168          | ECO102327              | 19046          | 55230          | CTR200606              | 31107          | 67291          | PMU101418              |
| 6985         | 43169          | ECO103376              | 19047          | 55231          | CTR200608              | 31108          | 67292          | PMU101422              |
| 6986         | 43170          | ECO103494              | 19048          | 55232          | CTR200610              | 31109          | 67293          | PMU101427              |
| 6987         | 43171          | ECO101382              | 19049          | 55233          | CTR200613              | 31110          | 67294          | PMU101430              |
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| 6991         | 43175          | ECO101568              | 19053          | 55237          | CTR200633              | 31114          | 67298          | PMU101445              |
| 6992         | 43176          | ECO101180              | 19054          | 55238          | CTR200637              | 31115          | 67299          | PMU101446              |
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| 6999         | 43183          | ECO100457              | 19061          | 55245          | CTR200665              | 31122          | 67306          | PMU101481              |
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| 7008         | 43193          | ECO100185<br>ECO102415 | 19070          | 55255          | CTR200685              | 31131          | 67316          | PMU101502              |
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| 7016         | 43200          | ECO100485              | 19078          | 55262          | CTR200708              | 31139          | 67323          | PMU101529              |
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| 7024         | 43208          | ECO100648              | 19086          | 55270          | CTR200726              | 31147          | 67331          | PMU101542              |
| 7025         | 43209          | ECO102454              | 19087          | 55271          | CTR200727              | 31148          | 67332          | PMU101543              |
| 7026         | 43210          | ECO101393              | 19088          | 55272          | CTR200728              | 31149          | 67333          | PMU101546              |
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| 7031         | 43215          | ECO102041              | 19093          | 55277          | CTR200741              | 31154          | 67338          | PMU101561              |
| 7032         | 43216          | ECO103069              | 19094          | 55278          | CTR200749              | 31155          | 67339          | PMU101563              |
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| 7034         | 43218          | ECO101635              | 19096          | 55280          | CTR200756              | 31157          | 67341          | PMU101575              |
| 7035         | 43219          | ECO102229              | 19097          | 55281          | CTR200767              | 31158          | 67342          | PMU101576              |

| wo           | 02/077183      |              |       |                |              |       | PCT/US  | 02/09107     |
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| 7038         | 43222          | ECO103972    | 19100 | 55284          | CTR200774    | 31161 | 67345   | PMU101589    |
| 7039         | 43223          | ECO103973    | 19101 | 55285          | CTR200781    | 31162 | 67346   | PMU101591    |
| 7040         | 43224          | ECO102872    | 19102 | 55286          | CTR200782    | 31163 | 67347   | PMU101594    |
| 7041         | 43225          | ECO102578    | 19103 | 55287          | CTR200783    | 31164 | 67348   | PMU101602    |
| 7042         | 43226          | ECO102216    | 19104 | 55288          | CTR200784    | 31165 | 67349   | PMU101606    |
| 7043         | 43227          | ECO104131    | 19105 | 55289          | CTR200785    | 31166 | 67350   | PMU101608    |
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| 7049         | 43233          | ECO101812    | 19111 | 55295          | CTR200791    | 31172 | 67356   | PMU101631    |
| 7050         | 43234          | ECO101444    | 19112 | 55296          | CTR200792    | 31173 | 67357   | PMU101632    |
| 7051         | 43235          | ECO102302    | 19113 | 55297          | CTR200793    | 31174 | 67358   | PMU101638    |
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| 7053         | 43237          | ECO103914    | 19115 | 55299          | CTR200795    | 31176 | 67360   | PMU101645    |
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| 7057         | 43241          | ECO103188    | 19119 | 55303          | CTR200799    | 31180 | 67364   | PMU101661    |
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| 7059         | 43243          | ECO100026    | 19121 | 55305          | CTR200801    | 31182 | 67366   | PMU101666    |
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| 7061         | 43245          | ECO103024    | 19123 | 55307          | CTR200803    | 31184 | 67368   | PMU101674    |
| 7062         | 43246          | ECO100093    | 19124 | 55308          | CTR200804    | 31185 | 67369   | PMU101675    |
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| 7065         | 43249          | ECO103684    | 19127 | 55311          | CTR200809    | 31188 | 67372   | PMU101686    |
| 7066         | 43250          | ECO102129    | 19128 | 55312          | CTR200810    | 31189 | 67373   | PMU101692    |
| 7067         | 43251          | ECO101870    | 19129 | 55313          | CTR200811    | 31190 | 67374   | PMU101693    |
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| 7076         | 43260          | ECO100407    | 19138 | 55322          | CTR200833    | 31199 | 67383   | PMU101717    |
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| 7078         | 43262          | ECO103101    | 19140 | 55324          | CTR200836    | 31201 | 67385   | PMU101726    |
| 7079         | 43263          | ECO103919    | 19141 | 55325          | CTR200853    | 31202 | 67386   | PMU101729    |
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| 7083         | 43267          | ECO101369    | 19145 | 55329          | CTR200860    | 31206 | 67390   | PMU101736    |
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| 7085         | 43269          | ECO101591    | 19147 | 55331          | CTR200865    | 31208 | 67392   | PMU101738    |
| 7086         | 43270          | ECO102304    | 19148 | 55332          | CTR200872    | 31209 | 67393   | PMU101739    |
| 7087         | 43271          | ECO102266    | 19149 | 55333<br>55334 | CTR200876    | 31210 | 67394   | PMU101742    |
| 7088<br>7089 | 43272<br>43273 | ECO103880    | 19150 | 55334<br>55335 | CTR200881    | 31211 | 67395   | PMU101743    |
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| 1.090        | 43414          | ECO102018    | 19152 | 55336          | CTR200887    | 31213 | 67397   | PMU101745    |

| wo           | 02/077183        | 3                      |                |                  |                        |                | PCT/US           | 802/09107              |
|--------------|------------------|------------------------|----------------|------------------|------------------------|----------------|------------------|------------------------|
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| 7091         | 43275            | ECO101513              | 19153          | 55337            | CTR200891              | 31214          | 67398            | PMU101746              |
| 7092         | 43276            | ECO101346              | 19154          | 55338            | CTR200892              | 31215          | 67399            | PMU101749              |
| 7093         | 43277            | ECO101515              | 19155          | 55339            | CTR200894              | 31216          | 67400            | PMU101752              |
| 7094         | 43278            | ECO103480              | 19156          | 55340            | CTR200895              | 31217          | 67401            | PMU101754              |
| 7095         | 43279            | ECO104248              | 19157          | 55341            | CTR200896              | 31218          | 67402            | PMU101759              |
| 7096         | 43280            | ECO103668              | 19158          | 55342            | CTR200901              | 31219          | 67403            | PMU101764              |
| 7097         | 43281            | ECO103581              | 19159          | 55343            | CTR200902              | 31220          | 67404            | PMU101765              |
| 7098         | 43282            | ECO104257              | 19160          | 55344            | CTR200903              | 31221          | 67405            | PMU101767              |
| 7099         | 43283            | ECO102671              | 19161          | 55345            | CTR200904              | 31222          | 67406            | PMU101771              |
| 7100         | 43284            | ECO101729              | 19162<br>19163 | 55346<br>55347   | CTR200905              | 31223<br>31224 | 67407<br>67408   | PMU101790<br>PMU101795 |
| 7101<br>7102 | 43285<br>43286   | ECO102346<br>ECO102921 | 19163          | 55347<br>55348   | CTR200906<br>EBC100005 | 31224          | 67408<br>67409   | PMU101795<br>PMU101796 |
| 7102         | 43287            | ECO102921<br>ECO101239 | 19165          | 55349            | EBC100003              | 31225          | 67410            | PMU101798              |
| 7103         | 43288            | ECO101239<br>ECO100868 | 19166          | 55350            | EBC100017<br>EBC100019 | 31227          | 67411            | PMU101798              |
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| 7106         | 43290            | ECO102869              | 19168          | 55352            | EBC100022              | 31229          | 67413            | PMU101812              |
| 7107         | 43291            | ECO100197              | 19169          | 55353            | EBC100023              | 31230          | 67414            | PMU101816              |
| 7108         | 43292            | ECO101438              | 19170          | 55354            | EBC100027              | 31231          | 67415            | PMU101817              |
| 7109         | 43293            | ECO100906              | 19171          | 55355            | EBC100031              | 31232          | 67416            | PMU101830              |
| 7110         | 43294            | ECO104049              | 19172          | 55356            | EBC100041              | 31233          | 67417            | PMU101843              |
| 7111         | 43295            | ECO104050              | 19173          | 55357            | EBC100042              | 31234          | 67418            | PMU101851              |
| 7112         | 43296            | ECO100032              | 19174          | 55358            | EBC100048              | 31235          | 67419            | PMU101853              |
| 7113         | 43297            | ECO100522              | 19175          | 55359            | EBC100049              | 31236          | 67420            | PMU101858              |
| 7114         | 43298            | ECO102654              | 19176          | 55360            | EBC100065              | 31237          | 67421            | PMU101860              |
| 7115         | 43299            | ECO102403              | 19177          | 55361            | EBC100070              | 31238          | 67422            | PMU101863              |
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| 7118         | 43302            | ECO101943              | 19180          | 55364            | EBC100100              | 31241          | 67425            | PMU101868              |
| 7119<br>7120 | 43303<br>43304   | ECO102473<br>ECO101781 | 19181<br>19182 | 55365<br>55366   | EBC100108<br>EBC100116 | 31242<br>31243 | 67426<br>67427   | PMU101871<br>PMU101872 |
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| 7121         | 43305            | ECO100913<br>ECO101868 | 19183          | 55368            | EBC100127<br>EBC100136 | 31244          | 67429            | PMU101874              |
| 7123         | 43307            | ECO101303<br>ECO103487 | 19185          | 55369            | EBC100136              | 31246          | 67430            | PMU101877              |
| 7124         | 43308            | ECO101421              | 19186          | 55370            | EBC100161              | 31247          | 67431            | PMU101887              |
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| 7126         | 43310            | ECO100004              | 19188          | 55372            | EBC100212              | 31249          | 67433            | PMU101891              |
| 7127         | 43311            | ECO100005              | 19189          | 55373            | EBC100218              | 31250          | 67434            | PMU101892              |
| 7128         | 43312            | ECO101403              | 19190          | 55374            | EBC100227              | 31251          | 67435            | PMU101893              |
| 7129         | 43313            | ECO205169              | 19191          | 55375            | EBC100241              | 31252          | 67436            | PMU101896              |
| 7130         | 43314            | ECO102817              | 19192          | 55376            | EBC100251              | 31253          | 67437            | PMU101900              |
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| 7135<br>7136 | 43319<br>43320   | ECO102639              | 19197<br>19198 | 55381<br>55382   | EBC100292<br>EBC100300 | 31258<br>31259 | 67442<br>67443   | PMU101916<br>PMU101917 |
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| 7140         | 43324            | ECO103557              | 19201          | 55386            | EBC100310              | 31263          | 67447            | PMU101940              |
| 7141         | 43325            | ECO104160              | 19203          | 55387            | EBC100323              | 31264          | 67448            | PMU101945              |
| 7142         | 43326            | ECO100381              | 19204          | 55388            | EBC100329              | 31265          | 67449            | PMU101950              |
| 7143         | 43327            | ECO102096              | 19205          | 55389            | EBC100331              | 31266          | 67450            | PMU101951              |
| 7144         | 43328            | ECO102741              | 19206          | 55390            | EBC100332              | 31267          | 67451            | PMU101955              |
| 7145         | 43329            | ECO101977              | 19207          | 55391            | EBC100341              | 31268          | 67452            | PMU101960              |
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| DNA   Protein   Gene LocusID   SeqID   | wo   | 02/077183 | <b>i</b>     |       |       |              |       | PCT/US | 602/09107    |
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| 7160         43344         ECO103866         19222         55406         EBC100434         31283         67467         PMU101997           7161         43345         ECO100402         19223         55407         EBC100442         31285         67469         PMU101998           7162         43346         ECO100402         19224         55408         EBC100442         31285         67469         PMU102001           7163         43347         ECO10175         19225         55409         EBC100444         31286         67470         PMU102009           7164         43348         ECO103533         19227         55411         EBC100445         31287         67471         PMU102010           7165         43349         ECO10954         19229         55412         EBC100455         31289         67473         PMU102010           7166         43350         ECO10954         19229         55413         EBC100460         31290         67474         PPU100005           7168         43352         ECO102466         19230         55414         EBC100461         31291         67475         PPU100005           7170         43354         ECO100151         19233         55415         EBC100468 <td>7158</td> <td>43342</td> <td>ECO100967</td> <td>19220</td> <td>55404</td> <td>EBC100417</td> <td>31281</td> <td>67465</td> <td>PMU101994</td>  | 7158 | 43342     | ECO100967    | 19220 | 55404 | EBC100417    | 31281 | 67465  | PMU101994    |
| 7161         43345         ECO101221         19223         55407         EBC100441         31284         67468         PMU101998           7162         43346         ECO100402         19224         55408         EBC100444         31285         67469         PMU102001           7163         43347         ECO10175         19225         55409         EBC100444         31286         67470         PMU102003           7164         43348         ECO103532         19226         55410         EBC100445         31287         67471         PMU102010           7166         43350         ECO100712         19228         55412         EBC100465         31289         67473         PMU102010           7167         43351         ECO102466         19230         55414         EBC100465         31290         67474         PPU100005           7168         43353         ECO102467         19231         55415         EBC100465         31290         67474         PPU100005           7169         43353         ECO100150         19232         55416         EBC100468         31292         67476         PPU100005           7170         43354         ECO100159         19232         55416         EBC100478<   | 7159 | 43343     | ECO103506    | 19221 | 55405 | EBC100426    | 31282 | 67466  | PMU101995    |
| 7162         43346         ECO100402         19224         55408         EBC100442         31285         67469         PMU102001           7163         43347         ECO101175         19225         55409         EBC100444         31286         67470         PMU102003           7164         43348         ECO103533         19226         55410         EBC100445         31287         67471         PMU102010           7165         43350         ECO100712         19228         55412         EBC100455         31289         67473         PMU102011           7167         43351         ECO102466         19229         55413         EBC100460         31290         67474         PPU100005           7168         43352         ECO102466         19230         55414         EBC100461         31291         67475         PPU100005           7169         43353         ECO102467         19231         55415         EBC100465         31292         67476         PPU100025           7170         43354         ECO100151         19233         55417         EBC100465         31292         67477         PPU100092           7171         43356         ECO103094         19233         55417         EBC100474   | 7160 | 43344     | ECO103866    | 19222 | 55406 | EBC100434    | 31283 | 67467  | PMU101997    |
| 7163         43347         ECO101175         19225         55409         EBC100444         31286         67470         PMU102003           7164         43348         ECO103532         19226         55410         EBC100445         31287         67471         PMU102009           7165         43349         ECO103533         19227         55411         EBC100447         31288         67472         PMU102010           7166         43350         ECO100712         19228         55412         EBC100455         31289         67473         PMU102011           7167         43351         ECO100954         19229         55413         EBC100460         31290         67474         PPU100005           7168         43352         ECO102467         19231         55415         EBC100465         31292         67476         PPU100008           7169         43353         ECO100150         19232         55416         EBC100468         31292         67476         PPU100087           7171         43355         ECO100151         19233         55417         EBC100474         31294         67478         PPU100092           7173         43357         ECO103734         19235         55419         EBC100477   | 7161 | 43345     | ECO101221    | 19223 | 55407 | EBC100441    | 31284 | 67468  | PMU101998    |
| 7164         43348         ECO103532         19226         55410         EBC100445         31287         67471         PMU102009           7165         43349         ECO103533         19227         55411         EBC100447         31288         67472         PMU102010           7166         43350         ECO100954         19229         55412         EBC100455         31289         67473         PMU102011           7167         43351         ECO102466         19230         55414         EBC100461         31290         67474         PPU100005           7168         43353         ECO102467         19231         55415         EBC100465         31292         67476         PPU100008           7169         43353         ECO102467         19231         55415         EBC100465         31292         67476         PPU100092           7170         43354         ECO100150         19233         55417         EBC100468         31293         674477         PPU100097           7171         43355         ECO103734         19234         55418         EBC100475         31294         67478         PPU100091           7174         43356         ECO103734         19235         55419         EBC10047   | 7162 | 43346     | ECO100402    | 19224 | 55408 | EBC100442    | 31285 | 67469  | PMU102001    |
| 7165         43349         ECO103533         19227         55411         EBC100447         31288         67472         PMU102010           7166         43350         ECO100712         19228         55412         EBC100455         31289         67473         PMU102011           7167         43351         ECO100466         19230         55414         EBC100460         31290         67474         PPU100005           7168         43352         ECO102466         19230         55414         EBC100465         31291         67475         PPU100008           7169         43353         ECO100150         19232         55416         EBC100468         31293         67477         PPU100087           7171         43354         ECO100151         19233         55417         EBC100474         31294         67478         PPU100091           7172         43356         ECO103734         19235         55418         EBC100475         31295         67479         PPU100092           7173         43357         ECO10334         19235         55419         EBC100477         31296         67480         PPU100111           7174         43359         ECO101539         19237         55421         EBC100486<   | 7163 | 43347     | ECO101175    | 19225 | 55409 | EBC100444    | 31286 | 67470  | PMU102003    |
| 7166         43350         ECO100712         19228         55412         EBC100455         31289         67473         PMU102011           7167         43351         ECO100954         19229         55413         EBC100460         31290         67474         PPU100005           7168         43352         ECO102466         19230         55414         EBC100465         31291         67476         PPU1000025           7170         43353         ECO100150         19232         55416         EBC100468         31292         67476         PPU100025           7171         43355         ECO100151         19233         55417         EBC100474         31294         67478         PPU100091           7172         43356         ECO103094         19234         55418         EBC100475         31295         67479         PPU100092           7173         43357         ECO103734         19235         55419         EBC100477         31296         67480         PPU100111           7174         43359         ECO101539         19237         55421         EBC100486         31297         67481         PPU100113           7175         43360         ECO101540         19238         55422         EBC10048   | 7164 | 43348     | ECO103532    | 19226 | 55410 | EBC100445    | 31287 | 67471  | PMU102009    |
| 7167         43351         ECO100954         19229         55413         EBC100460         31290         67474         PPU100005           7168         43352         ECO102466         19230         55414         EBC100461         31291         67475         PPU100008           7169         43353         ECO102467         19231         55415         EBC100465         31292         67476         PPU100025           7170         43354         ECO100150         19232         55416         EBC100468         31293         67477         PPU100087           7171         43355         ECO103094         19234         55418         EBC100474         31294         67478         PPU100091           7172         43356         ECO103734         19235         55419         EBC100475         31296         67479         PPU100092           7173         43357         ECO103734         19235         55419         EBC100477         31296         67480         PPU100111           7174         43359         ECO101539         19237         55421         EBC100487         31298         67481         PPU100113           7175         43360         ECO101540         19238         55422         EBC100547   | 7165 | 43349     | ECO103533    | 19227 | 55411 | EBC100447    | 31288 | 67472  | PMU102010    |
| 7168         43352         ECO102466         19230         55414         EBC100461         31291         67475         PPU100008           7169         43353         ECO102467         19231         55415         EBC100465         31292         67476         PPU100025           7170         43354         ECO100150         19232         55416         EBC100468         31293         67477         PPU100087           7171         43355         ECO103094         19233         55417         EBC100475         31294         67478         PPU100091           7172         43356         ECO103734         19235         55419         EBC100475         31295         67479         PPU100092           7173         43357         ECO103734         19235         55419         EBC100477         31296         67480         PPU100111           7174         43358         ECO100808         19236         55420         EBC100486         31297         67481         PPU100113           7175         43360         ECO101540         19238         55422         EBC100501         31299         67483         PPU100120           7176         43361         ECO103246         19249         55423         EBC100509   | 7166 | 43350     | ECO100712    | 19228 | 55412 | EBC100455    | 31289 | 67473  | PMU102011    |
| 7169         43353         ECO102467         19231         55415         EBC100465         31292         67476         PPU100025           7170         43354         ECO100150         19232         55416         EBC100468         31293         67477         PPU100087           7171         43355         ECO100151         19233         55417         EBC100474         31294         67478         PPU100091           7172         43356         ECO103094         19234         55418         EBC100475         31295         67479         PPU100092           7173         43357         ECO103734         19235         55419         EBC100477         31296         67480         PPU100111           7174         43358         ECO100808         19236         55420         EBC100486         31297         67481         PPU100113           7175         43359         ECO101539         19237         55421         EBC100487         31298         67482         PPU100120           7176         43360         ECO101540         19238         55422         EBC100501         31309         67483         PPU100137           7177         43361         ECO103245         19240         55423         EBC100510   | 7167 | 43351     | ECO100954    | 19229 | 55413 | EBC100460    | 31290 | 67474  | PPU100005    |
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| 7172         43356         ECO103094         19234         55418         EBC100475         31295         67479         PPU100092           7173         43357         ECO103734         19235         55419         EBC100477         31296         67480         PPU100111           7174         43358         ECO100808         19236         55420         EBC100486         31297         67481         PPU100113           7175         43359         ECO101539         19237         55421         EBC100487         31298         67482         PPU100120           7176         43360         ECO101540         19238         55422         EBC100501         31299         67483         PPU100137           7177         43361         ECO100096         19239         55423         EBC100509         31300         67484         PPU100159           7178         43362         ECO103245         19240         55424         EBC100510         31301         67485         PPU100159           7178         43363         ECO102462         19242         55425         EBC100510         31301         67486         PPU100174           7180         43364         ECO102463         19243         55427         EBC100530   |      |           |              |       |       | EBC100468    |       |        | PPU100087    |
| 7173         43357         ECO103734         19235         55419         EBC100477         31296         67480         PPU100111           7174         43358         ECO100808         19236         55420         EBC100486         31297         67481         PPU100113           7175         43359         ECO101539         19237         55421         EBC100487         31298         67482         PPU100120           7176         43360         ECO101540         19238         55422         EBC100501         31299         67483         PPU100137           7177         43361         ECO100096         19239         55423         EBC100509         31300         67484         PPU100159           7178         43362         ECO103245         19240         55424         EBC100510         31301         67485         PPU100161           7179         43363         ECO103246         19241         55425         EBC100514         31302         67486         PPU100174           7180         43364         ECO102462         19242         55426         EBC100530         31303         67487         PPU100194           7181         43365         ECO102463         19243         55427         EBC100539   |      |           |              |       |       | EBC100474    |       |        |              |
| 7174         43358         ECO100808         19236         55420         EBC100486         31297         67481         PPU100113           7175         43359         ECO101539         19237         55421         EBC100487         31298         67482         PPU100120           7176         43360         ECO101540         19238         55422         EBC100501         31299         67483         PPU100137           7177         43361         ECO100096         19239         55423         EBC100509         31300         67484         PPU100159           7178         43362         ECO103245         19240         55424         EBC100510         31301         67485         PPU100161           7179         43363         ECO103246         19241         55425         EBC100514         31302         67486         PPU100174           7180         43364         ECO102462         19242         55426         EBC100530         31303         67487         PPU100194           7181         43365         ECO102463         19243         55427         EBC100539         31304         67488         PPU100210           7183         43367         ECO100255         19245         55428         EBC100545   |      |           |              |       |       |              |       |        |              |
| 7175         43359         ECO101539         19237         55421         EBC100487         31298         67482         PPU100120           7176         43360         ECO101540         19238         55422         EBC100501         31299         67483         PPU100137           7177         43361         ECO100096         19239         55423         EBC100509         31300         67484         PPU100159           7178         43362         ECO103245         19240         55424         EBC100510         31301         67485         PPU100161           7179         43363         ECO103246         19241         55425         EBC100514         31302         67486         PPU100174           7180         43364         ECO102462         19242         55426         EBC100530         31303         67487         PPU100194           7181         43365         ECO102463         19243         55427         EBC100539         31304         67488         PPU100206           7182         43366         ECO103098         19244         55428         EBC100541         31305         67489         PPU100210           7183         43367         ECO100255         19245         55430         EBC100550   |      |           |              |       |       |              |       |        |              |
| 7176         43360         ECO101540         19238         55422         EBC100501         31299         67483         PPU100137           7177         43361         ECO100096         19239         55423         EBC100509         31300         67484         PPU100159           7178         43362         ECO103245         19240         55424         EBC100510         31301         67485         PPU100161           7179         43363         ECO103246         19241         55425         EBC100514         31302         67486         PPU100174           7180         43364         ECO102462         19242         55426         EBC100530         31303         67487         PPU100194           7181         43365         ECO102463         19243         55427         EBC100539         31304         67488         PPU100206           7182         43366         ECO103098         19244         55428         EBC100541         31305         67489         PPU100210           7183         43367         ECO100255         19245         55429         EBC100545         31306         67490         PPU100215           7184         43369         ECO100144         19246         55430         EBC100550   |      |           |              |       |       |              |       |        |              |
| 7177         43361         ECO100096         19239         55423         EBC100509         31300         67484         PPU100159           7178         43362         ECO103245         19240         55424         EBC100510         31301         67485         PPU100161           7179         43363         ECO103246         19241         55425         EBC100514         31302         67486         PPU100174           7180         43364         ECO102462         19242         55426         EBC100530         31303         67487         PPU100194           7181         43365         ECO102463         19243         55427         EBC100539         31304         67488         PPU100206           7182         43366         ECO103098         19244         55428         EBC100541         31305         67489         PPU100210           7183         43367         ECO100255         19245         55429         EBC100545         31306         67490         PPU100215           7184         43368         ECO100144         19246         55430         EBC100550         31307         67491         PPU100226           7185         43370         ECO103399         19248         55432         EBC100570   |      |           |              |       |       |              |       |        |              |
| 7178         43362         ECO103245         19240         55424         EBC100510         31301         67485         PPU100161           7179         43363         ECO103246         19241         55425         EBC100514         31302         67486         PPU100174           7180         43364         ECO102462         19242         55426         EBC100530         31303         67487         PPU100194           7181         43365         ECO102463         19243         55427         EBC100539         31304         67488         PPU100206           7182         43366         ECO103098         19244         55428         EBC100541         31305         67489         PPU100210           7183         43367         ECO100255         19245         55429         EBC100545         31306         67490         PPU100215           7184         43368         ECO100144         19246         55430         EBC100550         31307         67491         PPU100226           7185         43369         ECO103399         19248         55432         EBC100562         31308         67492         PPU100241           7186         43370         ECO103399         19248         55432         EBC100570   |      |           |              |       |       |              |       |        |              |
| 7179         43363         ECO103246         19241         55425         EBC100514         31302         67486         PPU100174           7180         43364         ECO102462         19242         55426         EBC100530         31303         67487         PPU100194           7181         43365         ECO102463         19243         55427         EBC100539         31304         67488         PPU100206           7182         43366         ECO103098         19244         55428         EBC100541         31305         67489         PPU100210           7183         43367         ECO100255         19245         55429         EBC100545         31306         67490         PPU100215           7184         43368         ECO100144         19246         55430         EBC100550         31307         67491         PPU100226           7185         43369         ECO100145         19247         55431         EBC100562         31308         67492         PPU100241           7186         43370         ECO103399         19248         55432         EBC100570         31309         67493         PPU100250           7187         43371         ECO204448         19249         55433         EBC100597   |      |           |              |       |       |              |       |        |              |
| 7180         43364         ECO102462         19242         55426         EBC100530         31303         67487         PPU100194           7181         43365         ECO102463         19243         55427         EBC100539         31304         67488         PPU100206           7182         43366         ECO103098         19244         55428         EBC100541         31305         67489         PPU100210           7183         43367         ECO100255         19245         55429         EBC100545         31306         67490         PPU100215           7184         43368         ECO100144         19246         55430         EBC100550         31307         67491         PPU100226           7185         43369         ECO100145         19247         55431         EBC100562         31308         67492         PPU100241           7186         43370         ECO103399         19248         55432         EBC100570         31309         67493         PPU100250           7187         43371         ECO204448         19249         55433         EBC100597         31310         67494         PPU100265           7189         43373         ECO104218         19251         55435         EBC100616   |      |           |              |       |       |              |       |        |              |
| 7181         43365         ECO102463         19243         55427         EBC100539         31304         67488         PPU100206           7182         43366         ECO103098         19244         55428         EBC100541         31305         67489         PPU100210           7183         43367         ECO100255         19245         55429         EBC100545         31306         67490         PPU100215           7184         43368         ECO100144         19246         55430         EBC100550         31307         67491         PPU100226           7185         43369         ECO100145         19247         55431         EBC100562         31308         67492         PPU100241           7186         43370         ECO103399         19248         55432         EBC100570         31309         67493         PPU100250           7187         43371         ECO204448         19249         55433         EBC100597         31310         67494         PPU100260           7188         43372         ECO102920         19250         55434         EBC100610         31311         67496         PPU100354           7189         43373         ECO104218         19251         55435         EBC100616   |      |           |              |       |       |              |       |        |              |
| 7182         43366         ECO103098         19244         55428         EBC100541         31305         67489         PPU100210           7183         43367         ECO100255         19245         55429         EBC100545         31306         67490         PPU100215           7184         43368         ECO100144         19246         55430         EBC100550         31307         67491         PPU100226           7185         43369         ECO100145         19247         55431         EBC100562         31308         67492         PPU100241           7186         43370         ECO103399         19248         55432         EBC100570         31309         67493         PPU100250           7187         43371         ECO204448         19249         55433         EBC100597         31310         67494         PPU100260           7188         43372         ECO102920         19250         55434         EBC100610         31311         67495         PPU100265           7189         43373         ECO104218         19251         55435         EBC100616         31312         67496         PPU100354  |      |           | l l          |       |       |              |       |        |              |
| 7183         43367         ECO100255         19245         55429         EBC100545         31306         67490         PPU100215           7184         43368         ECO100144         19246         55430         EBC100550         31307         67491         PPU100226           7185         43369         ECO100145         19247         55431         EBC100562         31308         67492         PPU100241           7186         43370         ECO103399         19248         55432         EBC100570         31309         67493         PPU100250           7187         43371         ECO204448         19249         55433         EBC100597         31310         67494         PPU100260           7188         43372         ECO102920         19250         55434         EBC100610         31311         67495         PPU100265           7189         43373         ECO104218         19251         55435         EBC100616         31312         67496         PPU100354   |      |           | · ·          |       |       |              |       |        |              |
| 7184         43368         ECO100144         19246         55430         EBC100550         31307         67491         PPU100226           7185         43369         ECO100145         19247         55431         EBC100562         31308         67492         PPU100241           7186         43370         ECO103399         19248         55432         EBC100570         31309         67493         PPU100250           7187         43371         ECO204448         19249         55433         EBC100597         31310         67494         PPU100260           7188         43372         ECO102920         19250         55434         EBC100610         31311         67495         PPU100265           7189         43373         ECO104218         19251         55435         EBC100616         31312         67496         PPU100354  |      |           |              |       |       |              |       |        |              |
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| 7187 43371 ECO204448 19249 55433 EBC100597 31310 67494 PPU100260 7188 43372 ECO102920 19250 55434 EBC100610 31311 67495 PPU100265 7189 43373 ECO104218 19251 55435 EBC100616 31312 67496 PPU100354   |      |           |              |       |       |              |       |        |              |
| 7188 43372 ECO102920 19250 55434 EBC100610 31311 67495 PPU100265<br>7189 43373 ECO104218 19251 55435 EBC100616 31312 67496 PPU100354   |      |           |              |       |       |              |       |        |              |
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| 7190 43374 ECO104241 19252 55436 EBC100624 31313 67497 PPU100404   |      |           |              |       |       |              |       |        |              |
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| 7191 43375 ECO102303 19253 33437 EBC100028 31314 07498 FF0100403 7192 43376 ECO100980 19254 55438 EBC100631 31315 67499 PPU100406  |      |           |              |       |       |              |       |        |              |
| 7192 43376 ECO100980 19234 33438 EBC100031 31313 07499 FF0100400 7193 43377 ECO103453 19255 55439 EBC100632 31316 67500 PPU100420  |      |           |              |       |       |              |       |        |              |
| 7194 43378 EC0103454 19256 55440 EBC100646 31317 67501 PPU100429   |      |           |              |       |       |              |       |        |              |
| 7195 43379 ECO204438 19257 55441 EBC100653 31318 67502 PPU100453   |      |           |              |       |       |              |       |        |              |
| 7196 43380 ECO103284 19258 55442 EBC100654 31319 67503 PPU100478   |      |           |              |       |       |              |       |        |              |
| 7197 43381 EC0102066 19259 55443 EBC100655 31320 67504 PPU100484   |      |           |              |       |       |              |       |        |              |
| 7198 43382 ECO102355 19260 55444 EBC100656 31321 67505 PPU100534   |      |           |              |       |       |              |       |        |              |
| 7199 43383 ECO103000 19261 55445 EBC100663 31322 67506 PPU100559   |      |           |              |       |       |              |       |        |              |
| 7200 43384 ECO102612 19262 55446 EBC100664 31323 67507 PPU100577   | •    |           | ľ            |       |       |              |       |        |              |

| <b>WO</b> 02/077183 |  |  |  | PCT/US02/09107 |  |  |  |  |
|---------------------|--|--|--|----------------|--|--|--|--|
|                     |  |  |  | <br>_          |  |  |  |  |

|       | 02/07/103 | a 1 ml                                 | DATA  | D       | C I ID                 | l DNTA | Doct in |              |
|-------|-----------|--|-------|---------|------------------------|--------|---------|--------------|
| DNA   | Protein   | Gene LocusID                           | DNA   | Protein | Gene LocusID           | DNA    | Protein | Gene LocusID |
| SeqID | SeqID     |  | SeqID | SeqID   |                        | SeqID  | SeqID   |              |
| 7201  | 43385     | ECO101188                              | 19263 | 55447   | EBC100668              | 31324  | 67508   | PPU100582    |
| 7202  | 43386     | ECO103424                              | 19264 | 55448   | EBC100672              | 31325  | 67509   | PPU100583    |
| 7203  | 43387     | ECO100572                              | 19265 | 55449   | EBC100683              | 31326  | 67510   | PPU100606    |
| 7204  | 43388     | ECO102351                              | 19266 | 55450   | EBC100689              | 31327  | 67511   | PPU100621    |
| 7205  | 43389     | ECO104028                              | 19267 | 55451   | EBC100699              | 31328  | 67512   | PPU100631    |
| 7206  | 43390     | ECO100475                              | 19268 | 55452   | EBC100702              | 31329  | 67513   | PPU100633    |
| 7207  | 43391     | ECO104233                              | 19269 | 55453   | EBC100703              | 31330  | 67514   | PPU100635    |
| 7208  | 43392     | ECO101499                              | 19270 | 55454   | EBC100704              | 31331  | 67515   | PPU100641    |
| 7209  | 43393     | ECO101671                              | 19271 | 55455   | EBC100706              | 31332  | 67516   | PPU100647    |
| 7210  | 43394     | ECO100867                              | 19272 | 55456   | EBC100717              | 31333  | 67517   | PPU100648    |
| 7211  | 43395     | KPN200073                              | 19273 | 55457   | EBC100728              | 31334  | 67518   | PPU100759    |
| 7212  | 43396     | KPN201086                              | 19274 | 55458   | EBC100731              | 31335  | 67519   | PPU100764    |
| 7213  | 43397     | KPN201087                              | 19275 | 55459   | EBC100765              | 31336  | 67520   | PPU100765    |
| 7214  | 43398     | KPN103883                              | 19276 | 55460   | EBC100767              | 31337  | 67521   | PPU100810    |
| 7215  | 43399     | KPN208757                              | 19277 | 55461   | EBC100769              | 31338  | 67522   | PPU100841    |
| 7216  | 43400     | KPN203895                              | 19278 | 55462   | EBC100771              | 31339  | 67523   | PPU100844    |
| 7217  | 43401     | KPN303445                              | 19279 | 55463   | EBC100771              | 31340  | 67524   | PPU100858    |
| 7218  | 43402     | KPN203896                              | 19280 | 55464   | EBC100780              | 31341  | 67525   | PPU100863    |
| 7219  | 43403     | KPN204465                              | 19281 | 55465   | EBC100789              | 31342  | 67526   | PPU100866    |
| 7219  | 43404     | KPN204464                              | 19282 | 55466   | EBC100703              | 31342  | 67527   | PPU100873    |
| 7221  | 43405     | KPN201990                              | 19283 | 55467   | EBC100805              | 31344  | 67528   | PPU100873    |
| 7222  | 43406     | KPN203025                              | 19284 | 55468   | EBC100806              | 31345  | 67529   | PPU100882    |
| 7223  | 43407     | KPN203487                              | 19285 | 55469   | EBC100807              | 31346  | 67530   | PPU100885    |
| 7224  | 43408     | KPN203310                              | 19286 | 55470   | EBC100809              | 31347  | 67531   | PPU100889    |
| 7225  | 43409     | KPN300969                              | 19287 | 55471   | EBC100803              | 31348  | 67532   | PPU100894    |
| 7226  | 43410     | KPN201549                              | 19288 | 55472   | EBC100812              | 31349  | 67533   | PPU100917    |
| 7227  | 43411     | KPN203973                              | 19289 | 55473   | EBC100818              | 31350  | 67534   | PPU100927    |
| 7228  | 43412     | KPN108099                              | 19290 | 55474   | EBC100818              | 31351  | 67535   | PPU100957    |
| 7229  | 43413     | KPN207255                              | 19291 | 55475   | EBC100826              | 31351  | 67536   | PPU100937    |
| 7230  | 43414     | KPN203534                              | 19292 | 55476   | EBC100828              | 31352  | 67537   | PPU101006    |
| 7231  | 43415     | KPN204596                              | 19293 | 55477   | EBC100834              | 31354  | 67538   | PPU101007    |
| 7232  | 43416     | KPN203246                              | 19294 | 55478   | EBC100838              | 31355  | 67539   | PPU101032    |
| 7233  | 43417     | KPN203084                              | 19295 | 55479   | EBC100856              | 31356  | 67540   | PPU101032    |
| 7234  | 43418     | KPN206685                              | 19296 | 55480   | EBC100867              | 31357  | 67541   | PPU101058    |
| 7235  | 43419     | KPN203146                              | 19297 | 55481   | EBC100870              | 31358  | 67542   | PPU101059    |
| 7236  | 43420     | KPN200459                              | 19298 | 55482   | EBC100870              | 31359  | 67543   | PPU101061    |
| 7237  | 43421     | KPN200460                              | 19299 | 55483   | EBC100874              | 31360  | 67544   | PPU101063    |
| 7238  | 43422     | KPN206300                              | 19300 | 55484   | EBC100875              | 31361  | 67545   | PPU101064    |
| 7239  | 43423     | PAE201546                              | 19301 | 55485   | EBC100878              | 31362  | 67546   | PPU101069    |
| 7240  | 43424     | PAE202422                              | 19302 | 55486   | EBC100878              | 31363  | 67547   | PPU101071    |
| 7241  | 43425     | PAE100416                              | 19303 | 55487   | EBC100904              | 31364  | 67548   | PPU101089    |
| 7242  | 43426     | PAE204992                              | 19304 | 55488   | EBC100905              | 31365  | 67549   | PPU101090    |
| 7243  | 43427     | PAE203039                              | 19305 | 55489   | EBC100906              | 31366  | 67550   | PPU101093    |
| 7244  | 43428     | PAE203038                              | 19306 | 55490   | EBC100908              | 31367  | 67551   | PPU101099    |
| 7245  | 43429     | PAE204262                              | 19307 | 55491   | EBC100918              | 31368  | 67552   | PPU101118    |
| 7246  | 43430     | PAE204064                              | 19308 | 55492   | EBC100919              | 31369  | 67553   | PPU101132    |
| 7247  | 43431     | PAE204269                              | 19309 | 55493   | EBC100920              | 31370  | 67554   | PPU101135    |
| 7248  | 43432     | PAE204270                              | 19310 | 55494   | EBC100928              | 31370  | 67555   | PPU101137    |
| 7249  | 43433     | PAE203045                              | 19310 | 55495   | EBC100928<br>EBC100940 | 31371  | 67556   | PPU101138    |
| 7250  | 43434     | PAE204248                              | 19311 | 55496   | EBC100940<br>EBC100948 | 31372  | 67557   | PPU101140    |
| 7251  | 43435     | PAE204249                              | 19312 | 55497   | EBC100948<br>EBC100951 | 31373  | 67558   | PPU101143    |
| 7252  | 43436     | PAE205294                              | 19314 | 55498   | EBC100961              | 31374  | 67559   | PPU101150    |
| 7253  | 43437     | PAE202311                              | 19315 | 55499   | EBC100964              | 31375  | 67560   | PPU101155    |
| 7254  | 43438     | PAE202311                              | 19316 | 55500   | EBC100965              | 31370  | 67561   | PPU101164    |
| 7.255 | 43439     | PAE204883                              | 19317 | 55501   | EBC100966              | 31377  | 67562   | PPU101166    |
| ,.200 | .5 .55    | ************************************** | 17511 | 55501   | 220100700              | 21276  | 0/302   | 11 0101100   |

| wo                       | 02/077183      |                        |                |                |                        |                | PCT/US         | 02/09107               |
|--------------------------|----------------|------------------------|----------------|----------------|------------------------|----------------|----------------|------------------------|
| DNA                      | Protein        | Gene LocusID           | DNA            | Protein        | Gene LocusID           | DNA            | Protein        | Gene LocusID           |
| SeqID                    | SeqID          |                        | SeqID          | SeqID          |                        | SeqID          | SeqID          |                        |
| 7256                     | 43440          | PAE204884              | 19318          | 55502          | EBC100969              | 31379          | 67563          | PPU101167              |
| 7257                     | 43441          | PAE203151              | 19319          | 55503          | EBC100975              | 31380          | 67564          | PPU101171              |
| 7258                     | 43442          | PAE203152              | 19320          | 55504          | EBC100976              | 31381          | 67565          | PPU101173              |
| 7259                     | 43443          | PAE203011              | 19321          | 55505          | EBC100985              | 31382          | 67566          | PPU101175              |
| 7260                     | 43444          | PAE202220              | 19322          | 55506          | EBC100989              | 31383          | 67567          | PPU101184              |
| 7261                     | 43445          | PAE200714              | 19323          | 55507          | EBC101014              | 31384          | 67568          | PPU101189              |
| 7262                     | 43446          | PAE105557              | 19324          | 55508          | EBC101020              | 31385          | 67569          | PPU101200              |
| 7263                     | 43447          | PAE109154              | 19325          | 55509          | EBC101022              | 31386          | 67570          | PPU101203              |
| 7264                     | 43448          | PAE203009              | 19326          | 55510          | EBC101030              | 31387          | 67571          | PPU101233              |
| 7265                     | 43449          | PAE204255              | 19327          | 55511          | EBC101032              | 31388          | 67572          | PPU101236              |
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| 7442          | 43626               | PAE202753              | 19504          | 55688          | EBC101854              | 31565          | 67749          | PPU103632                 |
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| 7444          | 43628               | PAE201647              | 19506          | 55690          | EBC101862              | 31567          | 67751          | PPU103670                 |
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| 7450          | 43634               | PAE108022              | 19512          | 55696          | EBC101891              | 31573          | 67757          | PPU103710<br>PPU103712    |
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| 7454          | 43638               | PAE200461              | 19516          | 55700          | EBC101909<br>EBC101910 | 31578          | 67762          | PPU103733                 |
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| 7491 43675 PAE201357 19553 55737 EBC102069 31614 67798 PPU104342 7492 43676 PAE203636 19554 55738 EBC102075 31615 67799 PPU104432 7493 43677 PAE200875 19555 55739 EBC102081 31616 67800 PPU104433 7494 43678 PAE200654 19556 55740 EBC102091 31617 67801 PPU104433 7495 43679 PAE205031 19557 55741 EBC102091 31618 67802 PPU104465 7496 43680 PAE200232 19558 55742 EBC102095 31619 67803 PPU104465 7496 43680 PAE200231 19559 55742 EBC102095 31619 67803 PPU104467 7498 43682 PAE203171 19560 55744 EBC102101 31620 67804 PPU104471 7498 43682 PAE203171 19560 55744 EBC102104 31621 67805 PPU104473 7499 43683 PAE202788 19561 55745 EBC102105 31622 67806 PPU104475 7500 43684 PAE203413 19562 55746 EBC102105 31622 67806 PPU104479 7502 43686 PAE204826 19564 55748 EBC102119 31624 67808 PPU104479 7502 43686 PAE203391 19563 55745 EBC102119 31624 67808 PPU104479 7502 43686 PAE203391 19565 55749 EBC102119 31624 67808 PPU104479 7504 43688 PAE2003391 19565 55749 EBC102119 31626 67810 PPU104488 7505 43689 PAE204223 19567 55751 EBC102140 31627 67810 PPU104488 7505 43689 PAE204223 19567 55751 EBC102147 31628 67812 PPU104488 7505 43690 PAE203213 19568 55752 EBC102151 31629 67813 PPU104492 7506 43690 PAE203213 19568 557545 EBC102171 31631 67815 PPU104497 7507 43691 PAE202107 19569 55753 EBC102171 31631 67815 PPU104490 7509 43693 PAE204687 19571 55755 EBC102179 31633 67814 PPU104490 7509 43693 PAE204687 19571 55755 EBC102179 31633 67814 PPU104500 7514 43695 PAE203734 19575 55756 EBC102179 31633 67817 PPU104500 7514 43696 PAE200399 19574 55756 EBC102199 31636 67820 PPU104507 7514 43699 PAE202089 19574 55766 EBC102210 31639 67823 PPU104507 7514 43699 PAE202364 19571 55765 EBC102120 31639 67823 PPU104507 7514 43690 PAE203734 19575 55766 EBC102210 31639 67823 PPU104507 7514 43690 PAE203734 19575 55766 EBC102210 31639 67823 PPU104507 7514 43699 PAE203734 19575 55766 EBC102210 31636 67820 PPU104507 7514 43690 PAE201697 19580 55766 EBC102210 31636 67820 PPU104507 7518 43701 PAE203704 19578 55766 EBC102210 31634 67825 PPU104522 7518 43705 PAE201789 19585 55 | 7489 | 43673   | PAE202495  | 19551 | 55735   | EBC102067    | 31612 | 67796   | PPU104158    |
| 7492         43676         PAE203636         19554         55738         EBC102075         31615         67799         PPU104432           7493         43677         PAE200875         19555         55739         EBC102081         31616         67800         PPU104463           7494         43678         PAE205031         19557         55741         EBC102094         31618         67802         PPU104465           7496         43680         PAE200221         19558         55742         EBC102095         31619         67803         PPU104471           7497         43681         PAE200221         19559         55743         EBC102101         31620         67804         PPU104473           7499         43683         PAE203171         19560         55744         EBC102105         31621         67805         PPU104475           7500         43684         PAE203413         19562         55746         EBC102113         31623         67806         PPU104475           7501         43685         PAE204826         19564         5574         EBC102113         31624         67808         PPU104479           7502         43686         PAE203331         19565         55749         EBC102139<   | 7490 | 43674   | PAE200485  | 19552 | 55736   | EBC102068    | 31613 | 67797   | PPU104167    |
| 7493         43677         PAE200875         19555         55739         EBC102081         31616         67800         PPU104433           7494         43678         PAE200654         19556         55740         EBC102091         31617         67801         PPU104465           7495         43679         PAE205031         19557         55741         EBC102094         31618         67802         PPU104469           7496         43681         PAE200221         19559         55742         EBC102095         31619         67803         PPU104469           7497         43681         PAE203171         19560         55744         EBC102104         31621         67806         PPU104471           7498         43682         PAE203171         19560         55744         EBC102105         31622         67806         PPU104478           7500         43684         PAE203431         19562         55746         EBC102113         31623         67807         PPU104478           7501         43685         PAE204321         19563         55747         EBC102119         31624         67808         PPU104479           7502         43686         PAE204826         19566         55780         EBC10214<   | 7491 | 43675   | PAE201357  | 19553 | 55737   | EBC102069    | 31614 | 67798   | PPU104342    |
| 7494         43678         PAE200654         19556         55740         EBC102091         31617         67801         PPU104463           7495         43679         PAE205031         19557         55741         EBC102094         31618         67802         PPU104465           7496         43680         PAE200221         19559         55743         EBC102101         31620         67804         PPU104471           7498         43682         PAE203171         19560         55744         EBC102104         31621         67805         PPU104473           7499         43683         PAE203413         19562         55745         EBC102105         31622         67806         PPU104475           7500         43684         PAE203413         19563         55745         EBC102119         31622         67806         PPU104478           7501         43686         PAE203422         19563         55747         EBC102119         31624         67808         PPU104478           7502         43686         PAE203391         19565         55749         EBC102124         31626         67810         PPU104483           7504         43688         PAE204223         19567         55751         EBC102140   | 7492 | 43676   | PAE203636  | 19554 | 55738   | EBC102075    | 31615 | 67799   | PPU104432    |
| 7495         43679         PAE205031         19557         55741         EBC102094         31618         67802         PPU104465           7496         43680         PAE200232         19558         55742         EBC102095         31619         67803         PPU104469           7497         43681         PAE200211         19550         55744         EBC102101         31620         67804         PPU104471           7498         43682         PAE203171         19560         55744         EBC102105         31621         67805         PPU104475           7500         43684         PAE203413         19562         55746         EBC102113         31623         67807         PPU104475           7501         43685         PAE203421         19563         55746         EBC102119         31624         67809         PPU104479           7502         43686         PAE204826         19564         55748         EBC102119         31626         67809         PPU104479           7502         43687         PAE203391         19565         55749         EBC102139         31626         67810         PPU104483           7504         43688         PAE2003231         19566         55750         EBC10214   |      |         |  |       |         |              |       |         |              |
| 7496         43680         PAE200232         19558         55742         EBC102095         31619         67803         PPU104469           7497         43681         PAE200221         19559         55743         EBC102101         31620         67804         PPU104471           7498         43682         PAE203171         19560         55744         EBC102104         31621         67806         PPU104473           7499         43683         PAE2034813         19561         55745         EBC102113         31622         67806         PPU104478           7501         43685         PAE205342         19563         55746         EBC102119         31624         67808         PPU104479           7502         43686         PAE204826         19564         55748         EBC102124         31625         67809         PPU104479           7502         43687         PAE203391         19565         55749         EBC102123         31626         67810         PPU104481           7503         43687         PAE203213         19566         55750         EBC102147         31628         67812         PPU104481           7505         43690         PAE204223         19567         55751         EBC10214   |      |         |  |       |         |              |       |         |              |
| 7497         43681         PAE200221         19559         55743         EBC102101         31620         67804         PPU104471           7498         43682         PAE203171         19560         55744         EBC102104         31621         67805         PPU104473           7499         43683         PAE203413         19562         55746         EBC102113         31622         67806         PPU104478           7501         43685         PAE205342         19563         55747         EBC102119         31624         67808         PPU104479           7502         43686         PAE204826         19564         55748         EBC102124         31625         67809         PPU104479           7503         43687         PAE203391         19565         55749         EBC102139         31626         67810         PPU104481           7504         43688         PAE2004223         19567         55751         EBC102147         31626         67811         PPU104483           7506         43690         PAE203213         19568         55752         EBC102151         31628         67812         PPU104492           7507         43691         PAE204622         19570         55754         EBC10215   |      |         |  |       |         | 1            |       |         |              |
| 7498         43682         PAE203171         19560         55744         EBC102104         31621         67805         PPU104473           7499         43683         PAE202788         19561         55745         EBC102105         31622         67806         PPU104475           7500         43684         PAE203413         19562         55746         EBC102113         31623         67807         PPU104478           7501         43685         PAE204826         19564         55747         EBC102119         31624         67808         PPU104479           7502         43686         PAE204826         19564         55748         EBC102124         31625         67809         PPU104481           7503         43687         PAE203391         19565         55749         EBC102139         31626         67810         PPU104483           7504         43688         PAE200160         19566         55750         EBC102140         31627         67811         PPU104488           7505         43689         PAE204223         19567         55751         EBC102147         31628         67812         PPU104497           7506         43690         PAE202107         19569         55753         EBC102152   |      |         |  |       |         |              |       |         |              |
| 7499         43683         PAE202788         19561         55745         EBC102105         31622         67806         PPU104475           7500         43684         PAE203413         19562         55746         EBC102113         31623         67807         PPU104478           7501         43685         PAE205342         19563         55747         EBC102119         31624         67808         PPU1044479           7502         43686         PAE203391         19565         55748         EBC102124         31626         67810         PPU104481           7503         43687         PAE203391         19565         55749         EBC102140         31627         67811         PPU104483           7504         43688         PAE204223         19567         55751         EBC102147         31628         67812         PPU104488           7505         43689         PAE204213         19568         55752         EBC102147         31628         67812         PPU104492           7506         43690         PAE20313         19568         55752         EBC102151         31630         67814         PPU104497           7507         43691         PAE204622         19570         55754         EBC102171   |      |         |  |       |         |              |       |         |              |
| 7500         43684         PAE203413         19562         55746         EBC102113         31623         67807         PPU104478           7501         43685         PAE205342         19563         55747         EBC102119         31624         67808         PPU104479           7502         43686         PAE204826         19564         55748         EBC102124         31625         67809         PPU104481           7503         43687         PAE203391         19565         55749         EBC102139         31626         67810         PPU104483           7504         43688         PAE200016         19566         55750         EBC102147         31628         67811         PPU104488           7505         43689         PAE204223         19567         55751         EBC102147         31628         67812         PPU104492           7506         43690         PAE203213         19568         55752         EBC102151         31629         67813         PPU104497           7507         43691         PAE204622         19570         55754         EBC102171         31630         67814         PPU104490           7508         43693         PAE204687         19571         55755         EBC102171   |      |         |  |       |         |              |       |         |              |
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| 7502         43686         PAE204826         19564         55748         EBC102124         31625         67809         PPU104481           7503         43687         PAE203391         19565         55749         EBC102139         31626         67810         PPU104483           7504         43688         PAE200016         19566         55750         EBC102140         31627         67811         PPU104488           7505         43689         PAE203213         19568         55752         EBC102151         31629         67813         PPU104492           7506         43691         PAE202107         19569         55753         EBC102152         31630         67814         PPU104498           7508         43692         PAE204622         19570         55754         EBC102171         31631         67815         PPU104500           7509         43693         PAE204687         19571         55755         EBC102178         31631         67816         PPU104501           7510         43694         PAE203198         19572         55756         EBC102179         31633         67817         PPU104502           7511         43695         PAE2003734         19575         55758         EBC10218   |      |         | 4  |       |         | 1            |       |         |              |
| 7503         43687         PAE203391         19565         55749         EBC102139         31626         67810         PPU104483           7504         43688         PAE200016         19566         55750         EBC102140         31627         67811         PPU104488           7505         43689         PAE204223         19567         55751         EBC102147         31628         67812         PPU104492           7506         43690         PAE203213         19568         55752         EBC102151         31629         67813         PPU104497           7507         43691         PAE204622         19570         55753         EBC102152         31630         67814         PPU104498           7508         43692         PAE204687         19570         55754         EBC102171         31631         67815         PPU104500           7509         43693         PAE204687         19571         55755         EBC102178         31632         67816         PPU104501           7510         43694         PAE203198         19572         55756         EBC102179         31633         67817         PPU104502           7511         43695         PAE200459         19574         55758         EBC102180   |      |         |  |       |         |              |       |         | •            |
| 7504         43688         PAE200016         19566         55750         EBC102140         31627         67811         PPU104488           7505         43689         PAE204223         19567         55751         EBC102147         31628         67812         PPU104492           7506         43690         PAE203213         19568         55752         EBC102151         31629         67813         PPU104497           7507         43691         PAE202107         19569         55753         EBC102152         31630         67814         PPU104498           7508         43692         PAE204622         19570         55754         EBC102171         31631         67815         PPU104500           7509         43693         PAE204687         19571         55755         EBC102178         31632         67816         PPU104501           7510         43694         PAE203198         19572         55756         EBC102179         31633         67817         PPU104502           7511         43695         PAE202587         19573         55757         EBC102180         31634         67818         PPU104505           7513         43696         PAE203734         19575         55758         EBC102182   |      |         |  |       |         |              |       |         |              |
| 7505         43689         PAE204223         19567         55751         EBC102147         31628         67812         PPU104492           7506         43690         PAE203213         19568         55752         EBC102151         31629         67813         PPU104497           7507         43691         PAE202107         19569         55753         EBC102152         31630         67814         PPU104498           7508         43692         PAE204622         19570         55754         EBC102171         31631         67815         PPU104500           7509         43693         PAE204687         19571         55755         EBC102178         31632         67816         PPU104501           7510         43694         PAE203198         19572         55756         EBC102179         31633         67817         PPU104502           7511         43695         PAE2002587         19573         55757         EBC102180         31634         67818         PPU104504           7512         43696         PAE2003734         19575         55758         EBC102182         31635         67819         PPU104505           7514         43698         PAE2002989         19576         55760         EBC102   |      |         |  |       |         |              |       |         |              |
| 7506         43690         PAE203213         19568         55752         EBC102151         31629         67813         PPU104497           7507         43691         PAE202107         19569         55753         EBC102152         31630         67814         PPU104498           7508         43692         PAE204622         19570         55754         EBC102171         31631         67815         PPU104500           7509         43693         PAE204687         19571         55755         EBC102178         31632         67816         PPU104501           7510         43694         PAE203198         19572         55756         EBC102179         31633         67817         PPU104502           7511         43695         PAE202587         19573         55757         EBC102180         31634         67818         PPU104504           7512         43696         PAE203734         19575         55758         EBC102182         31635         67819         PPU104505           7514         43698         PAE202989         19576         55760         EBC102209         31636         67820         PPU104517           7515         43699         PAE200008         19577         55761         EBC102209   |      |         |  |       |         |              |       |         |              |
| 7507         43691         PAE202107         19569         55753         EBC102152         31630         67814         PPU104498           7508         43692         PAE204622         19570         55754         EBC102171         31631         67815         PPU104500           7509         43693         PAE204687         19571         55755         EBC102178         31632         67816         PPU104501           7510         43694         PAE203198         19572         55756         EBC102179         31633         67817         PPU104502           7511         43695         PAE202587         19573         55757         EBC102180         31634         67818         PPU104504           7512         43696         PAE200459         19574         55758         EBC102182         31635         67819         PPU104505           7513         43697         PAE203734         19575         55759         EBC102199         31636         67820         PPU104507           7514         43698         PAE2002989         19576         55760         EBC102200         31637         67821         PPU104517           7515         43699         PAE201049         19578         55762         EBC10220   |      |         |  |       |         |              |       |         |              |
| 7508         43692         PAE204622         19570         55754         EBC102171         31631         67815         PPU104500           7509         43693         PAE204687         19571         55755         EBC102178         31632         67816         PPU104501           7510         43694         PAE203198         19572         55756         EBC102179         31633         67817         PPU104502           7511         43695         PAE202587         19573         55757         EBC102180         31634         67818         PPU104504           7512         43696         PAE200459         19574         55758         EBC102182         31635         67819         PPU104505           7513         43697         PAE203734         19575         55759         EBC102199         31636         67820         PPU104507           7514         43698         PAE202989         19576         55760         EBC102200         31637         67821         PPU104517           7515         43699         PAE200008         19577         55761         EBC102209         31638         67822         PPU104518           7516         43700         PAE201049         19578         55762         EBC102210   |      |         | 1  |       |         |              |       |         |              |
| 7509         43693         PAE204687         19571         55755         EBC102178         31632         67816         PPU104501           7510         43694         PAE203198         19572         55756         EBC102179         31633         67817         PPU104502           7511         43695         PAE202587         19573         55757         EBC102180         31634         67818         PPU104504           7512         43696         PAE200459         19574         55758         EBC102182         31635         67819         PPU104505           7513         43697         PAE203734         19575         55759         EBC102199         31636         67820         PPU104507           7514         43698         PAE202989         19576         55760         EBC102200         31637         67821         PPU104517           7515         43699         PAE200008         19577         55761         EBC102209         31638         67822         PPU104518           7516         43700         PAE201049         19578         55762         EBC102210         31639         67823         PPU104520           7517         43701         PAE201697         19580         55764         EBC102211   |      |         |  |       |         |              |       |         |              |
| 7510         43694         PAE203198         19572         55756         EBC102179         31633         67817         PPU104502           7511         43695         PAE202587         19573         55757         EBC102180         31634         67818         PPU104504           7512         43696         PAE200459         19574         55758         EBC102182         31635         67819         PPU104505           7513         43697         PAE203734         19575         55759         EBC102199         31636         67820         PPU104507           7514         43698         PAE202989         19576         55760         EBC102200         31637         67821         PPU104517           7515         43699         PAE200008         19577         55761         EBC102209         31638         67822         PPU104518           7516         43700         PAE201049         19578         55762         EBC102210         31639         67823         PPU104520           7517         43701         PAE205205         19579         55763         EBC102211         31640         67824         PPU104522           7518         43702         PAE201697         19580         55764         EBC102213   |      |         |  |       |         |              |       |         |              |
| 7511         43695         PAE202587         19573         55757         EBC102180         31634         67818         PPU104504           7512         43696         PAE200459         19574         55758         EBC102182         31635         67819         PPU104505           7513         43697         PAE203734         19575         55759         EBC102199         31636         67820         PPU104507           7514         43698         PAE202989         19576         55760         EBC102200         31637         67821         PPU104517           7515         43699         PAE200008         19577         55761         EBC102209         31638         67822         PPU104518           7516         43700         PAE201049         19578         55762         EBC102210         31639         67823         PPU104520           7517         43701         PAE205205         19579         55763         EBC102211         31640         67824         PPU104522           7518         43702         PAE201697         19580         55764         EBC102213         31641         67825         PPU104523           7520         43704         PAE201267         19582         55766         EBC102216   |      |         |  |       | -       |              |       |         |              |
| 7512         43696         PAE200459         19574         55758         EBC102182         31635         67819         PPU104505           7513         43697         PAE203734         19575         55759         EBC102199         31636         67820         PPU104507           7514         43698         PAE202989         19576         55760         EBC102200         31637         67821         PPU104517           7515         43699         PAE200008         19577         55761         EBC102209         31638         67822         PPU104518           7516         43700         PAE201049         19578         55762         EBC102210         31639         67823         PPU104520           7517         43701         PAE205205         19579         55763         EBC102211         31640         67824         PPU104522           7518         43702         PAE201697         19580         55764         EBC102213         31641         67825         PPU104523           7519         43703         PAE201267         19582         55765         EBC102214         31642         67826         PPU104525           7520         43704         PAE201267         19582         55766         EBC102216   |      |         |  |       |         |              |       |         |              |
| 7513         43697         PAE203734         19575         55759         EBC102199         31636         67820         PPU104507           7514         43698         PAE202989         19576         55760         EBC102200         31637         67821         PPU104517           7515         43699         PAE200008         19577         55761         EBC102209         31638         67822         PPU104518           7516         43700         PAE201049         19578         55762         EBC102210         31639         67823         PPU104520           7517         43701         PAE205205         19579         55763         EBC102211         31640         67824         PPU104522           7518         43702         PAE201697         19580         55764         EBC102213         31641         67825         PPU104523           7519         43703         PAE202364         19581         55765         EBC102214         31642         67826         PPU104525           7520         43704         PAE201267         19582         55766         EBC102216         31643         67827         PPU104526           7521         43705         PAE201789         19583         55767         EBC102240   |      |         |  |       |         |              |       |         |              |
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| 7515         43699         PAE200008         19577         55761         EBC102209         31638         67822         PPU104518           7516         43700         PAE201049         19578         55762         EBC102210         31639         67823         PPU104520           7517         43701         PAE205205         19579         55763         EBC102211         31640         67824         PPU104522           7518         43702         PAE201697         19580         55764         EBC102213         31641         67825         PPU104523           7519         43703         PAE202364         19581         55765         EBC102214         31642         67826         PPU104525           7520         43704         PAE201267         19582         55766         EBC102216         31643         67827         PPU104526           7521         43705         PAE201789         19583         55767         EBC102240         31644         67828         PPU104527           7522         43706         PAE109011         19584         55768         EBC102244         31645         67829         PPU104529           7523         43707         PAE202390         19585         55769         EBC102263   |      |         |  |       |         |              |       |         |              |
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| 7522 43706 PAE109011 19584 55768 EBC102244 31645 67829 PPU104529 7523 43707 PAE202390 19585 55769 EBC102263 31646 67830 PPU104531  |      |         |  |       |         |              |       | 67828   |              |
|  | 7522 | 43706   | PAE109011  | 19584 | 55768   |              | 31645 | 67829   | PPU104529    |
|  |      |         |  |       |         |              |       |         |              |
| /324 43/06 PAE20021/ 19386 35//0 EBC102265 3164/ 6/831 PPU104532   | 7524 | 43708   | PAE200217  | 19586 | 55770   | EBC102265    | 31647 | 67831   | PPU104532    |
| 7525 43709 PAE204909 19587 55771 EBC102266 31648 67832 PPU104534   | 7525 | 43709   | PAE204909  | 19587 |         |              | 31648 | 67832   | PPU104534    |
| 7526 43710 PAE203877 19588 55772 EBC102270 31649 67833 PPU104535   |      |         |  |       | 55772   | EBC102270    | 31649 | 67833   | PPU104535    |
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| 7529 43713 STM104276 19591 55775 EBC102285 31652 67836 PPU104550   |      |         |  |       |         |              |       |         |              |
| 7530 43714 STM100638 19592 55776 EBC102287 31653 67837 PPU104562   | 7530 | 43714   | STM100638  | 19592 | 55776   | EBC102287    | 31653 | 67837   | PPU104562    |

| wo           | 02/077183        |                        |                |                  |                        |                | PCT/US           | 02/09107               |
|--------------|------------------|------------------------|----------------|------------------|------------------------|----------------|------------------|------------------------|
| DNA<br>SeqID | Protein<br>SeqID | Gene LocusID           | DNA<br>SeqID   | Protein<br>SeqID | Gene LocusID           | DNA<br>SeqID   | Protein<br>SeqID | Gene LocusID           |
| 7531         | 43715            | STM102789              | 19593          | 55777            | EBC102291              | 31654          | 67838            | PPU104566              |
| 7532         | 43716            | STM101116              | 19594          | 55778            | EBC102295              | 31655          | 67839            | PPU104571              |
| 7533         | 43717            | STM102089              | 19595          | 55779            | EBC102296              | 31656          | 67840            | PPU104660              |
| 7.534        | 43718            | STM102090              | 19596          | 55780            | EBC102297              | 31657          | 67841            | PPU104664              |
| 7535         | 43719            | STM103418              | 19597          | 55781            | EBC102299              | 31658          | 67842            | PPU104672              |
| 7536         | 43720            | STM103805              | 19598          | 55782            | EBC102309              | 31659          | 67843            | PPU104679              |
| 7537         | 43721            | STM104223              | 19599          | 55783            | EBC102310              | 31660          | 67844            | PPU104680              |
| 7538         | 43722            | STM104237              | 19600          | 55784            | EBC102312              | 31661          | 67845            | PPU104681              |
| 7539         | 43723            | STM100580              | 19601          | 55785            | EBC102313              | 31662          | 67846            | PPU104691              |
| 7540         | 43724            | STM103506              | 19602          | 55786            | EBC102315              | 31663          | 67847            | PPU104709              |
| 7541         | 43725            | STM103802              | 19603          | 55787            | EBC102316              | 31664          | 67848            | PPU104724              |
| 7542         | 43726            | STM104133              | 19604          | 55788            | EBC102317              | 31665          | 67849            | PPU104725              |
| 7543         | 43727            | STM103938              | 19605          | 55789            | EBC102337              | 31666          | 67850            | PPU104805              |
| 7544         | 43728            | STM101278              | 19606          | 55790            | EBC102338              | 31667          | 67851            | PPU104809              |
| 7545         | 43729            | STM103908              | 19607          | 55791            | EBC102343              | 31668          | 67852            | PPU104816              |
| 7546         | 43730            | STM102835              | 19608          | 55792            | EBC102356              | 31669          | 67853            | PPU104834              |
| 7547         | 43731            | STM100693              | 19609          | 55793            | EBC102366              | 31670          | 67854            | PPU104835              |
| 7548<br>7540 | 43732            | STM103815              | 19610          | 55794            | EBC102374              | 31671          | 67855            | PPU104838              |
| 7549         | 43733            | STM103235              | 19611          | 55795<br>55706   | EBC102375              | 31672          | 67856            | PPU104840              |
| 7550<br>7551 | 43734            | STM102419              | 19612          | 55796<br>55707   | EBC102376              | 31673          | 67857            | PPU104927              |
| 7551<br>7552 | 43735            | STM102422              | 19613          | 55797            | EBC102396              | 31674          | 67858            | PPU104936              |
| 7552         | 43736            | STM103274<br>STM100227 | 19614          | 55798<br>55799   | EBC102411<br>EBC102413 | 31675<br>31676 | 67859<br>67860   | PPU104938<br>PPU104991 |
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| 7555         | 43739            | STM100229<br>STM100274 | 19617          | 55800            | EBC102413<br>EBC102419 | 31677          | 67862            | PPU105003              |
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| 7558         | 43742            | STM104667              | 19620          | 55804            | EBC102434              | 31681          | 67865            | PPU105044              |
| 7559         | 43743            | STM101923              | 19621          | 55805            | EBC102434              | 31682          | 67866            | PPU105054              |
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| 7562         | 43746            | STM103247              | 19624          | 55808            | EBC102449              | 31685          | 67869            | PPU105080              |
| 7563         | 43747            | STM101115              | 19625          | 55809            | EBC102473              | 31686          | 67870            | PPU105090              |
| 7564         | 43748            | STM102401              | 19626          | 55810            | EBC102475              | 31687          | 67871            | PPU105100              |
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| 7569         | 43753            | STM103180              | 19631          | 55815            | EBC102490              | 31692          | 67876            | PPU105263              |
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| 7571         | 43755            | STM102672              | 19633          | 55817            | EBC102499              | 31694          | 67878            | PPU105312              |
| 7572         | 43756            | SAU800548              | 19634          | 55818            | EBC102507              | 31695          | 67879            | PPU105337              |
| 7573         | 43757            | SAU800700              | 19635          | 55819            | EBC102509              | 31696          | 67880            | PPU105397              |
| 7574         | 43758            | SAU801152              | 19636          | 55820            | EBC102514              | 31697          | 67881            | PPU105455              |
| 7575         | 43759            | SAU801151              | 19637          | 55821            | EBC102522              | 31698          | 67882            | PPU105471              |
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| 7578         | 43762            | SAU802160              | 19640          | 55824            | EBC102527              | 31701          | 67885            | PPU105503              |
| 7579<br>7590 | 43763            | SAU603460              | 19641          | 55825            | EBC102532              | 31702          | 67886            | PPU105633              |
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| 1303         | 73/03            | 27000002               | 1704/          |                  | EDC102332              | 31/00          | 07074            | 11 0103743             |
|              |                  |                        |                | 318              |                        |                |                  |                        |

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|       | D       | a a ml       | TONTA | D.,,4-:        | C ITD        | DNIA  | Dustain |                    |
|-------|---------|--------------|-------|----------------|--------------|-------|---------|--------------------|
| DNA   | Protein | Gene LocusID | DNA   | Protein        | Gene LocusID | DNA   | Protein | Gene LocusID       |
| SeqID | SeqID   |              | SeqID | SeqID          |              | SeqID | SeqID   |                    |
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| 7592  | 43776   | SAU800381    | 19654 | 55838          | EBC102568    | 31715 | 67899   | PPU105935          |
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| 7596  | 43780   | SAU801740    | 19658 | 55842          | EBC102572    | 31719 | 67903   | PPU105960          |
| 7597  | 43781   | SAU801263    | 19659 | 55843          | EBC102573    | 31720 | 67904   | PPU105962          |
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| 7599  | 43783   | SAU800546    | 19661 | 55845          | EBC102576    | 31722 | 67906   | PPU105984          |
| 7600  | 43784   | SAU802105    | 19662 | 55846          | EBC102580    | 31723 | 67907   | PPU105993          |
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| 7602  | 43786   | SAU801900    | 19664 | 55848          | EBC102590    | 31725 | 67909   | PPU106096          |
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| 7604  | 43788   | SAU800283    | 19666 | 55850          | EBC102604    | 31727 | 67911   | PPU106243          |
| 7605  | 43789   | SAU800547    | 19667 | 55851          | EBC102605    | 31728 | 67912   | PPU106251          |
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| 7615  | 43799   | SAU802309    | 19677 | 55861          | EBC102628    | 31738 | 67922   | PPU106426          |
| 7616  | 43800   | SAU801904    | 19678 | 55862          | EBC102634    | 31739 | 67923   | PPU106435          |
| 7617  | 43801   | SAU800519    | 19679 | 55863          | EBC102639    | 31740 | 67924   | PPU106459          |
| 7618  | 43802   | SAU800014    | 19680 | 55864          | EBC102642    | 31741 | 67925   | PPU106471          |
| 7619  | 43803   | SAU800528    | 19681 | 55865          | EBC102649    | 31742 | 67926   | PPU106499          |
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| 7621  | 43805   | SAU801644    | 19683 | 55867          | EBC102662    | 31744 | 67928   | PPU106533          |
| 7622  | 43806   | SAU802262    | 19684 | 55868          | EBC102666    | 31745 | 67929   | PPU106554          |
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| 7625  | 43809   | SAU800122    | 19687 | 55871          | EBC102672    | 31748 | 67932   | PPU106604          |
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|     | <b>WO</b> 0            | 2/077183         |                        |                |                  |                        |                | PCT/US0          | 2/09107                |
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|     | NA<br>eqID             | Protein<br>SeqID | Gene LocusID           | DNA<br>SeqID   | Protein<br>SeqID | Gene LocusID           | DNA<br>SeqID   | Protein<br>SeqID | Gene LocusID           |
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| WO 02/077183 | PCT/US02/09107 |
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| 7705         43889         SAU801286         19767         55951         EBC102958         31828         68012         PPU1077709           7706         43891         SAU800118         19769         55952         EBC102960         31830         68013         PPU107774           7708         43892         SAU802139         19770         55954         EBC102963         31831         68015         PPU1077784           7709         43893         SAU800476         19771         55955         EBC102963         31831         68016         PPU107789           7710         43894         SAU800176         19773         55955         EBC102965         31833         68017         PPU107789           7711         43895         SAU800177         19774         55956         EBC102973         31834         68018         PPU107780           7713         43897         SAU8002511         19776         55960         EBC102980         31837         68021         PPU10780           7714         43898         SAU8002521         19777         55961         EBC102984         31838         68022         PPU107820           7714         43890         SAU8002521         19778         55961         EBC10   |      |           |  |              |         | 1            |       |         |               |
| 7706         43890         SAU800118         19768         55952         EBC102958         31829         68013         PPUI07712           7707         43891         SAU802139         19770         55954         EBC102962         31831         68015         PPU107778           7709         43892         SAU802632         19771         55955         EBC102963         31831         68015         PPU107778           7710         43894         SAU800476         19773         55955         EBC102963         31831         68017         PPU107798           7711         43895         SAU800176         19773         55956         EBC102970         31834         68018         PPU107798           7712         43896         SAU800117         19774         55958         EBC102973         31835         68019         PPU107801           7713         43897         SAU801013         19775         55959         EBC102983         31836         68021         PPU107801           7714         43989         SAU800259         19778         55961         EBC102986         31839         68022         PPU107820           7717         43901         SAU800357         19779         55962         EBC102986   |      |           |  |              |         |              |       |         |               |
| 7707         43891         SAU801362         19769         55954         EBC102960         31830         68014         PPU107748           7708         43893         SAU802632         19771         55955         EBC102963         31832         68016         PPU107780           7710         43894         SAU800476         19772         55956         EBC102965         31832         68017         PPU1077780           7711         43895         SAU800177         19774         55956         EBC102973         31834         68018         PPU107799           7712         43896         SAU800113         19775         55956         EBC102980         31836         68019         PPU107801           7714         43898         SAU800230         19777         55960         EBC102980         31836         68021         PPU107810           7716         43900         SAU800239         19778         55962         EBC102986         31833         68021         PPU107820           7716         43901         SAU800259         19778         55962         EBC102986         31840         68022         PPU107824           7711         43901         SAU800306         19781         55962         EBC10298   |      |           |  |              |         |              |       |         |               |
| 7708         43892         SAU802139         19770         55954         EBC102962         31831         68015         PPUI07754           7709         43894         SAU800476         19772         55955         EBC102965         31833         68017         PPU107798           7711         43895         SAU800176         19773         55956         EBC102970         31834         68018         PPU107798           7712         43896         SAU800171         19774         55958         EBC102973         31836         68019         PPU107801           7713         43897         SAU801013         19775         55959         EBC102980         31836         68021         PPU107810           7713         43898         SAU800251         19777         55961         EBC102988         31837         68021         PPU107810           7715         43990         SAU800259         19778         55962         EBC102986         31839         68022         PPU107820           7717         43901         SAU800356         19781         55962         EBC102986         31840         68024         PPU107841           7711         43902         SAU800357         19783         55964         EBC102986   |      |           |  |              |         |              |       |         |               |
| 7709         43893         SAU8002632         19771         55956         EBC102963         31832         68016         PPU107789           7710         43894         SAU800176         19772         55956         EBC102970         31833         68017         PPU107799           7712         43896         SAU800177         19774         55958         EBC102973         31834         68018         PPU107799           7713         43897         SAU800131         19775         55959         EBC102980         31835         68019         PPU107802           7714         43898         SAU800231         19777         55960         EBC102982         31837         68021         PPU107802           7715         43899         SAU800230         19777         55961         EBC102984         31836         68022         PPU107824           7717         43901         SAU800257         19778         55962         EBC102986         31840         68024         PPU107844           7718         43902         SAU800356         19781         55965         EBC102986         31841         68024         PPU107844           7718         43903         SAU8003036         19781         55965         EBC1029   |      |           |  |              |         |              |       |         |               |
| 7710         43894         SAU800176         19772         55956         EBC102970         31833         68017         PPU107799           7711         43895         SAU800177         19774         55958         EBC102970         31834         68018         PPU107801           7713         43897         SAU80131         19775         55959         EBC102980         31836         68020         PPU107801           7714         43898         SAU802511         19776         55960         EBC102982         31837         68021         PPU107818           7715         43899         SAU800259         19778         55961         EBC102986         31839         68022         PPU107820           7716         43900         SAU800257         19779         55963         EBC102986         31839         68023         PPU107824           7717         43901         SAU800357         19780         55964         EBC102986         31840         68023         PPU107824           7719         43903         SAU800357         19781         55966         EBC102988         31844         68025         PPU107861           7719         43904         SAU801091         19782         55966         EBC102999<   |      |           |  |              |         |              |       |         |               |
| 7711 43895 SAU800176 19773 55957 EBC102970 31834 68018 PPU107801   7712 43896 SAU800171 19774 55958 EBC102981 31835 68019 PPU107801   7713 43897 SAU801013 19775 55958 EBC102982 31837 68021 PPU107802   7714 43898 SAU802511 19776 55960 EBC102982 31837 68021 PPU107802   7716 43899 SAU800230 19777 55961 EBC102984 31838 68022 PPU107820   7716 43900 SAU800235 19778 55962 EBC102984 31838 68022 PPU107824   7717 43901 SAU801257 19779 55963 EBC102987 31840 68024 PPU107824   7718 43902 SAU800357 19780 55964 EBC102988 31841 68025 PPU107824   7719 43903 SAU800350 19781 55965 EBC102998 31842 68026 PPU107861   7719 43903 SAU8001094 19782 55966 EBC102996 31843 68027 PPU107872   7720 43904 SAU801095 19783 55967 EBC102999 31844 68028 PPU107885   7722 43906 SAU800252 19784 55968 EBC102999 31843 68027 PPU107885   7722 43906 SAU801095 19783 55967 EBC103909 31844 68028 PPU107887   7724 43908 SAU802110 19786 55969 EBC103013 31846 68029 PPU107887   7724 43908 SAU802111 19786 55970 EBC103019 31847 68031 PPU107909   7725 43909 SAU80210 19787 55971 EBC103019 31847 68031 PPU107909   7725 43910 SAU802099 19789 55973 EBC103024 31849 68033 PPU107953   7727 43911 SAU802099 19789 55973 EBC103024 31849 68033 PPU107953   7728 43912 SAU802590 19791 55975 EBC103024 31850 68034 PPU107953   7728 43912 SAU802590 19791 55975 EBC103024 31850 68034 PPU107953   7728 43915 SAU801205 19792 55976 EBC103034 31853 68035 PPU107961   7730 43914 SAU801205 19792 55976 EBC103043 31853 68037 PPU107909   7731 43915 SAU801508 19794 55988 EBC103045 31855 68039 PPU108062   7733 43917 SAU200470 19795 55980 EBC103049 31856 68044 PPU108073   7734 43918 SAU801600 19787 55981 EBC103049 31856 68044 PPU108073   7735 43919 SAU802040 19795 55981 EBC103009 31866 68044 PPU108073   7736 43920 SAU80244 19798 55983 EBC103009 31866 68044 PPU108073   7737 43921 SAU802606 19803 55987 EBC103009 31866 68044 PPU108082   7734 43928 SAU800401 19806 55990 EBC103009 31866 68045 PPU108087   7744 43928 SAU800401 19806 55990 EBC103009 31866 68051 PPU108108   7744 43928 SAU800401 19806 55990 EBC1 |      |           | 1  |              |         |              |       |         |               |
| 7712         43896         SAU800177         19774         55958         EBC102980         31835         68019         PPU107802           7713         43897         SAU801031         19775         55959         EBC102980         31836         68020         PPU107802           7714         43898         SAU800251         19777         55961         EBC102984         31833         68022         PPU107820           7716         43900         SAU800259         19778         55962         EBC102986         31839         68023         PPU107824           7717         43901         SAU80357         19780         55964         EBC102986         31840         68024         PPU107844           7719         43903         SAU803057         19780         55964         EBC102999         31842         68026         PPU107844           7719         43903         SAU801094         19782         55966         EBC102999         31844         68025         PPU107884           7721         43904         SAU801095         19783         55967         EBC103002         31845         68027         PPU107886           7721         43906         SAU801511         19785         55968         EBC103002<   |      |           |  |              |         |              |       |         |               |
| 7713         43897         SAU801013         19775         55959         BBC102980         31836         68020         PPU107802           7714         43898         SAU800230         19777         55961         BBC102984         31837         68021         PPU107818           7716         43900         SAU800259         19778         55962         BBC102986         31839         68022         PPU107824           7717         43901         SAU801257         19779         55963         BBC102986         31840         68023         PPU107824           7719         43903         SAU800306         19781         55965         BBC102990         31842         68025         PPU107861           7720         43904         SAU801094         19782         55966         BBC102990         31843         68027         PPU107882           7721         43904         SAU801095         19783         55966         BBC103002         31845         68029         PPU107882           7721         43906         SAU801511         19785         55968         BBC103012         31846         68029         PPU107887           7722         43908         SAU802151         19785         55969         BBC103013   |      |           |  |              |         |              |       |         |               |
| 7714         43898         SAU802511         19776         55960         EBC102982         31837         68021         PPU107820           7715         43999         SAU800259         19777         55961         EBC102986         31839         68022         PPU107820           7717         43901         SAU801257         19779         55963         EBC102987         31840         68024         PPU107844           7718         43902         SAU800357         19780         55964         EBC102983         31841         68025         PPU107861           7719         43903         SAU801094         19782         55966         EBC102990         31841         68026         PPU107882           7721         43905         SAU801095         19783         55967         EBC102996         31844         68027         PPU107885           7722         43906         SAU80252         19784         55968         EBC103002         31845         68029         PPU107887           7724         43908         SAU802711         19785         55967         EBC103019         31847         68031         PPU107897           7724         43908         SAU802010         19787         55971         EBC103013<   |      |           | The state of the s |              |         |              |       |         |               |
| 7715         43899         SAURSO0230         19777         55961         EBC102984         31838         68022         PPU107820           7716         43900         SAURS01257         19779         55962         EBC102987         31840         68023         PPU107824           7717         43901         SAURS00357         19780         55964         EBC102988         31841         68025         PPU107861           7719         43903         SAURS00366         19781         55965         EBC102990         31842         68026         PPU107881           7720         43904         SAURS01095         19783         55967         EBC102990         31843         68022         PPU107884           7721         43905         SAURS01095         19783         55967         EBC103002         31844         68028         PPU107886           7722         43906         SAURS02151         19785         55968         EBC103002         31845         68029         PPU107885           7724         43908         SAURS02101         19787         55970         EBC103013         31846         68039         PPU107909           7725         43910         SAURS0209         19788         55973         E   |      |           |  |              |         |              |       |         |               |
| 7716         43900         SAU800259         19778         55962         EBC102986         31839         68023         PPU107824           7717         43901         SAU800357         19780         55963         EBC102987         31840         68024         PPU107861           7719         43903         SAU800306         19781         55965         EBC102990         31842         68026         PPU107872           7720         43904         SAU801094         19782         55966         EBC102996         31843         68027         PPU107886           7721         43905         SAU801095         19783         55966         EBC103002         31843         68028         PPU107886           7722         43906         SAU801511         19785         55966         EBC103002         31845         68028         PPU107887           7723         43907         SAU802101         19786         55969         EBC103018         31846         68030         PPU107895           7724         43908         SAU802100         19787         55971         EBC103021         31848         68031         PPU1079090           7725         43911         SAU802098         19789         55971         EBC10302   |      |           |  |              |         |              |       |         |               |
| 7717         43901         SAU801257         19779         55963         EBC102987         31840         68024         PPU107844           7718         43902         SAU800357         19780         55964         EBC102988         31841         68025         PPU107872           7720         43904         SAU801094         19781         55966         EBC102996         31843         68027         PPU107886           7721         43905         SAU801095         19783         55967         EBC102997         31844         68028         PPU107886           7722         43906         SAU800252         19784         55968         EBC1030012         31845         68029         PPU107886           7722         43908         SAU802101         19785         55968         EBC103019         31846         68030         PPU107887           7724         43908         SAU802100         19787         55971         EBC103019         31847         68031         PPU107909           7725         43910         SAU802098         19788         55971         EBC103021         31849         68033         PPU107911           7726         43911         SAU802059         19789         55973         EBC10302   |      |           |  |              |         |              |       |         |               |
| 7718         43902         SAU800367         19780         55964         EBC102998         31841         68025         PPU107861           7719         43903         SAU800306         19781         55966         EBC102990         31842         68026         PPU107884           7720         43904         SAU801095         19783         55967         EBC102997         31844         68028         PPU107886           7721         43906         SAU800252         19784         55968         EBC103002         31845         68029         PPU107886           7723         43907         SAU80211         19786         55969         EBC103019         31846         68031         PPU107895           7724         43908         SAU802100         19787         55971         EBC103021         31848         68031         PPU107909           7725         43909         SAU802098         19788         55972         EBC103021         31848         68032         PPU107909           7726         43910         SAU802039         19789         55973         EBC103024         31850         68034         PPU107953           7722         43913         SAU802539         19790         55974         EBC103032<   |      |           |  |              |         |              |       |         |               |
| 7719         43903         SAU800306         19781         55965         EBC102990         31842         68026         PPU107872           7720         43904         SAU801094         19782         55966         EBC102996         31843         68027         PPU107886           7721         43905         SAU801095         19784         55968         EBC103002         31844         68028         PPU107886           7722         43906         SAU800252         19784         55968         EBC103002         31845         68029         PPU107887           7723         43907         SAU802711         19786         55970         EBC103018         31846         68030         PPU107955           7724         43908         SAU802100         19787         55971         EBC103021         31848         68032         PPU107911           7726         43910         SAU802098         19788         55972         EBC103024         31849         68033         PPU107935           7722         43911         SAU802539         19790         55974         EBC103032         31850         68034         PPU107953           7728         43912         SAU801508         19792         55976         EBC103032   |      |           |  |              |         |              |       |         | •             |
| 7720         43904         SAU801094         19782         55966         EBC102996         31843         68027         PPU107884           7721         43905         SAU801095         19783         55967         EBC102997         31844         68028         PPU107886           7722         43906         SAU802052         19784         55968         EBC103002         31845         68029         PPU107887           7723         43907         SAU801511         19785         55969         EBC103018         31846         68030         PPU107999           7724         43908         SAU802100         19787         55971         EBC103021         31847         68031         PPU107909           7726         43910         SAU802098         19788         55972         EBC103022         31849         68033         PPU107951           7726         43911         SAU802539         19789         55973         EBC103027         31850         68034         PPU107953           7728         43912         SAU8012590         19791         55975         EBC103030         31851         68035         PPU107961           7730         43914         SAU801501         19792         55976         EBC10304   |      |           |  |              |         |              |       |         |               |
| 7721         43905         SAU801095         19783         55967         EBC102997         31844         68028         PPU107886           7722         43906         SAU800252         19784         55968         EBC103002         31845         68029         PPU107887           7723         43907         SAU801511         19785         55969         EBC103018         31846         68030         PPU107989           7724         43908         SAU802100         19787         55971         EBC103021         31848         68032         PPU107911           7726         43910         SAU802098         19788         55972         EBC103024         31849         68033         PPU107911           7727         43911         SAU802099         19789         55973         EBC103022         31850         68034         PPU107953           7728         43912         SAU802539         19790         55974         EBC1030302         31851         68035         PPU107960           7730         43914         SAU801205         19792         55976         EBC103034         31853         68036         PPU107970           7731         43915         SAU801507         19793         55976         EBC10304   |      |           |  |              |         |              |       |         |               |
| 7722         43906         SAU800252         19784         55968         EBC103002         31845         68029         PPU107887           7723         43907         SAU801511         19785         55969         EBC103018         31846         68030         PPU107905           7724         43908         SAU802101         19787         55971         EBC103019         31847         68031         PPU107901           7725         43909         SAU802098         19788         55972         EBC103024         31849         68033         PPU107911           7726         43911         SAU802099         19789         55973         EBC103024         31850         68034         PPU107953           7727         43911         SAU802539         19790         55974         EBC103030         31851         68035         PPU107970           7732         43913         SAU202590         19791         55975         EBC103032         31852         68036         PPU107970           7731         43915         SAU801205         19792         55976         EBC103032         31853         68037         PPU107970           7732         43916         SAU801507         19793         55977         EBC103044   |      |           |  |              |         |              |       |         |               |
| 7723         43907         SAU801511         19785         55969         EBC103018         31846         68030         PPU107895           7724         43908         SAU802101         19787         55970         EBC103019         31847         68031         PPU107909           7725         43909         SAU802100         19787         55971         EBC103021         31848         68032         PPU107911           7726         43910         SAU802098         19788         55972         EBC103024         31849         68033         PPU107935           7727         43911         SAU802059         19789         55973         EBC1030302         31850         68034         PPU107961           7729         43913         SAU202590         19791         55975         EBC103032         31852         68036         PPU107970           7730         43914         SAU801507         19793         55976         EBC103034         31853         68037         PPU107994           7731         43915         SAU801507         19793         55977         EBC103044         31854         68038         PPU108049           7732         43916         SAU801507         19795         55978         EBC10306   |      |           |  |              |         |              |       |         |               |
| 7724         43908         SAU802711         19786         55970         EBC103019         31847         68031         PPU107909           7725         43909         SAU802100         19787         55971         EBC103021         31848         68032         PPU107915           7726         43910         SAU802099         19788         55972         EBC103024         31849         68033         PPU107935           7727         43911         SAU802099         19789         55973         EBC103027         31850         68034         PPU107953           7728         43912         SAU802539         19790         55974         EBC103030         31851         68035         PPU107961           7729         43913         SAU202590         19791         55975         EBC103032         31852         68036         PPU107970           7730         43914         SAU801507         19793         55977         EBC103044         31853         68037         PPU107994           7731         43915         SAU801507         19793         55977         EBC103045         31855         68038         PPU108029           7732         43916         SAU801680         19797         55980         EBC103045   |      |           | 1  |              |         |              |       |         |               |
| 7725         43909         SAU802100         19787         55971         EBC103021         31848         68032         PPU107911           7726         43910         SAU802098         19788         55972         EBC103024         31849         68033         PPU107935           7727         43911         SAU802539         19790         55974         EBC103027         31850         68034         PPU107951           7728         43913         SAU202590         19791         55974         EBC103032         31852         68036         PPU107961           7739         43914         SAU801205         19792         55976         EBC103034         31853         68037         PPU107994           7731         43915         SAU801507         19793         55977         EBC103044         31854         68038         PPU108029           7732         43916         SAU801508         19794         55978         EBC103045         31855         68039         PPU108062           7734         43918         SAU801680         19797         55980         EBC103067         31857         68040         PPU108062           7734         43919         SAU801680         19797         55981         EBC103074   |      |           |  |              |         |              |       |         |               |
| 7726         43910         SAU802098         19788         55972         EBC103024         31849         68033         PPU107935           7727         43911         SAU802099         19789         55973         EBC103027         31850         68034         PPU107953           7728         43912         SAU802539         19790         55974         EBC103032         31851         68035         PPU107970           7730         43914         SAU801205         19792         55976         EBC103034         31853         68037         PPU107990           7731         43915         SAU801507         19793         55976         EBC103044         31853         68037         PPU108029           7732         43916         SAU801508         19794         55978         EBC103045         31855         68039         PPU108029           7734         43918         SAU801680         19795         55979         EBC103066         31856         68040         PPU108073           7735         43919         SAU802640         19797         55981         EBC103074         31857         68041         PPU108073           7735         43920         SAU802244         19798         55982         EBC103078   |      |           |  |              |         |              |       |         |               |
| 7727         43911         SAU802099         19789         55973         EBC103027         31850         68034         PPU107953           7728         43912         SAU802539         19790         55974         EBC103030         31851         68035         PPU107961           7729         43913         SAU202590         19791         55975         EBC103032         31852         68036         PPU107970           7730         43914         SAU801507         19792         55976         EBC103034         31853         68037         PPU107994           7731         43916         SAU801508         19794         55978         EBC103044         31855         68038         PPU108029           7732         43916         SAU801508         19794         55978         EBC103045         31855         68039         PPU108041           7733         43917         SAU200470         19795         55979         EBC103066         31856         68040         PPU108062           7734         43918         SAU801680         19797         55981         EBC103067         31857         68041         PPU108073           7736         43920         SAU802244         19798         55982         EBC103078   |      |           |  |              |         |              |       |         |               |
| 7728         43912         SAU802539         19790         55974         EBC103030         31851         68035         PPU107961           7729         43913         SAU202590         19791         55975         EBC103032         31852         68036         PPU107970           7730         43914         SAU801205         19792         55976         EBC103034         31853         68037         PPU107994           7731         43915         SAU801507         19793         55977         EBC103045         31854         68038         PPU108029           7732         43916         SAU801508         19794         55978         EBC103045         31855         68039         PPU108041           7732         43917         SAU200470         19795         55979         EBC103066         31856         68040         PPU108062           7734         43918         SAU801680         19797         55980         EBC103067         31857         68041         PPU108073           7735         43919         SAU802244         19798         55982         EBC103078         31859         68042         PPU108076           7736         43921         SAU802610         19799         55983         EBC103083   |      |           |  |              |         |              |       |         |               |
| 7729         43913         SAU202590         19791         55975         EBC103032         31852         68036         PPU107970           7730         43914         SAU801205         19792         55976         EBC103034         31853         68037         PPU107994           7731         43915         SAU801507         19793         55977         EBC103044         31854         68038         PPU108029           7732         43916         SAU801508         19794         55978         EBC103045         31855         68039         PPU108041           7733         43917         SAU200470         19795         55979         EBC103066         31856         68040         PPU108062           7734         43918         SAU801680         19797         55980         EBC103074         31857         68041         PPU108073           7735         43919         SAU801680         19797         55981         EBC103074         31858         68042         PPU108076           7736         43920         SAU802244         19798         55982         EBC103078         31859         68043         PPU108078           7737         43921         SAU800261         19799         55983         EBC103083   |      |           |  |              |         |              |       |         |               |
| 7730         43914         SAU801205         19792         55976         EBC103034         31853         68037         PPU107994           7731         43915         SAU801507         19793         55977         EBC103044         31854         68038         PPU108029           7732         43916         SAU801508         19794         55978         EBC103045         31855         68039         PPU108041           7733         43917         SAU200470         19795         55979         EBC103066         31856         68040         PPU108062           7734         43918         SAU801680         19797         55981         EBC103067         31857         68041         PPU108073           7735         43919         SAU801680         19797         55981         EBC103074         31859         68042         PPU108076           7736         43920         SAU802244         19798         55982         EBC103078         31859         68043         PPU108078           7737         43921         SAU802610         19799         55983         EBC103089         31861         68044         PPU108078           7738         43922         SAU800189         19800         55985         EBC103099   |      |           |  |              |         |              |       |         |               |
| 7731         43915         SAU801507         19793         55977         EBC103044         31854         68038         PPU108029           7732         43916         SAU801508         19794         55978         EBC103045         31855         68039         PPU108041           7733         43917         SAU200470         19795         55979         EBC103066         31856         68040         PPU108062           7734         43918         SAU801611         19796         55980         EBC103067         31857         68041         PPU108073           7735         43919         SAU801680         19797         55981         EBC103074         31858         68042         PPU108076           7736         43920         SAU802244         19798         55982         EBC103078         31859         68043         PPU108078           7737         43921         SAU802610         19799         55983         EBC103083         31860         68044         PPU108082           7738         43922         SAU800463         19800         55984         EBC103099         31861         68045         PPU108086           7739         43923         SAU802654         19802         55986         EBC103091   |      |           |  |              |         |              |       |         |               |
| 7732         43916         SAU801508         19794         55978         EBC103045         31855         68039         PPU108041           7733         43917         SAU200470         19795         55979         EBC103066         31856         68040         PPU108062           7734         43918         SAU801011         19796         55980         EBC103067         31857         68041         PPU108073           7735         43919         SAU801680         19797         55981         EBC103074         31858         68042         PPU108076           7736         43920         SAU802244         19798         55982         EBC103078         31859         68043         PPU108078           7737         43921         SAU802610         19799         55983         EBC103083         31860         68044         PPU108082           7738         43922         SAU800189         19800         55984         EBC103089         31861         68045         PPU108082           7739         43923         SAU802654         19802         55986         EBC103090         31862         68046         PPU108087           7741         43925         SAU802666         19803         55987         EBC103092   |      |           |  |              |         |              |       |         |               |
| 7733         43917         SAU200470         19795         55979         EBC103066         31856         68040         PPU108062           7734         43918         SAU801011         19796         55980         EBC103067         31857         68041         PPU108073           7735         43919         SAU801680         19797         55981         EBC103074         31858         68042         PPU108076           7736         43920         SAU802244         19798         55982         EBC103078         31859         68043         PPU108078           7737         43921         SAU802610         19799         55983         EBC103083         31860         68044         PPU108082           7738         43922         SAU800189         19800         55984         EBC103089         31861         68045         PPU108086           7739         43923         SAU800463         19801         55985         EBC103090         31862         68046         PPU108087           7740         43924         SAU802664         19803         55987         EBC103091         31863         68047         PPU108097           7742         43926         SAU802230         19804         55988         EBC103094   |      |           | i i  |              |         |              |       |         |               |
| 7734         43918         SAU801011         19796         55980         EBC103067         31857         68041         PPU108073           7735         43919         SAU801680         19797         55981         EBC103074         31858         68042         PPU108076           7736         43920         SAU802244         19798         55982         EBC103078         31859         68043         PPU108078           7737         43921         SAU802610         19799         55983         EBC103083         31860         68044         PPU108082           7738         43922         SAU800189         19800         55984         EBC103089         31861         68045         PPU108086           7739         43923         SAU800463         19801         55985         EBC103090         31862         68046         PPU108087           7740         43924         SAU802654         19802         55986         EBC103091         31863         68047         PPU108087           7741         43925         SAU802606         19803         55987         EBC103092         31864         68048         PPU108105           7742         43926         SAU8002230         19804         55988         EBC10309   |      |           |  |              |         |              |       |         |               |
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| 7736         43920         SAU802244         19798         55982         EBC103078         31859         68043         PPU108078           7737         43921         SAU802610         19799         55983         EBC103083         31860         68044         PPU108082           7738         43922         SAU800189         19800         55984         EBC103089         31861         68045         PPU108086           7739         43923         SAU800463         19801         55985         EBC103090         31862         68046         PPU108087           7740         43924         SAU802654         19802         55986         EBC103091         31863         68047         PPU108097           7741         43925         SAU802606         19803         55987         EBC103092         31864         68048         PPU108105           7742         43926         SAU802230         19804         55988         EBC103094         31865         68049         PPU108108           7743         43927         SAU800942         19805         55989         EBC103096         31866         68050         PPU108140           7745         43929         SAU700396         19807         55991         EBC103099   |      |           |  |              |         |              |       |         |               |
| 7737         43921         SAU802610         19799         55983         EBC103083         31860         68044         PPU108082           7738         43922         SAU800189         19800         55984         EBC103089         31861         68045         PPU108086           7739         43923         SAU800463         19801         55985         EBC103090         31862         68046         PPU108087           7740         43924         SAU802654         19802         55986         EBC103091         31863         68047         PPU108097           7741         43925         SAU802606         19803         55987         EBC103092         31864         68048         PPU108105           7742         43926         SAU802230         19804         55988         EBC103094         31865         68049         PPU108108           7743         43927         SAU800942         19805         55989         EBC103096         31866         68050         PPU108140           7744         43928         SAU800001         19806         55990         EBC103098         31867         68051         PPU108141           7745         43930         SAU802249         19808         55992         EBC103101   |      |           |  |              |         |              |       |         | PPU108078     |
| 7738         43922         SAU800189         19800         55984         EBC103089         31861         68045         PPU108086           7739         43923         SAU800463         19801         55985         EBC103090         31862         68046         PPU108087           7740         43924         SAU802654         19802         55986         EBC103091         31863         68047         PPU108097           7741         43925         SAU802606         19803         55987         EBC103092         31864         68048         PPU108105           7742         43926         SAU802230         19804         55988         EBC103094         31865         68049         PPU108108           7743         43927         SAU800942         19805         55989         EBC103096         31866         68050         PPU108140           7744         43928         SAU800001         19806         55990         EBC103098         31867         68051         PPU108141           7745         43930         SAU802249         19808         55992         EBC103101         31869         68053         PPU108157           7747         43931         SAU802510         19809         55993         EBC103102   |      |           |  |              |         |              |       |         |               |
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| 7742         43926         SAU802230         19804         55988         EBC103094         31865         68049         PPU108108           7743         43927         SAU800942         19805         55989         EBC103096         31866         68050         PPU108140           7744         43928         SAU800001         19806         55990         EBC103098         31867         68051         PPU108141           7745         43929         SAU700396         19807         55991         EBC103099         31868         68052         PPU108153           7746         43930         SAU802249         19808         55992         EBC103101         31869         68053         PPU108157           7747         43931         SAU802510         19809         55993         EBC103102         31870         68054         PPU108163           7748         43932         SAU801677         19810         55994         EBC103106         31871         68055         PPU108165           7749         43933         SAU800490         19811         55995         EBC103107         31872         68056         PPU108168  | 774  | 0 43924   | SAU802654  | 19802        | 55986   | EBC103091    | 31863 | 68047   | PPU108097     |
| 7743         43927         SAU800942         19805         55989         EBC103096         31866         68050         PPU108140           7744         43928         SAU800001         19806         55990         EBC103098         31867         68051         PPU108141           7745         43929         SAU700396         19807         55991         EBC103099         31868         68052         PPU108153           7746         43930         SAU802249         19808         55992         EBC103101         31869         68053         PPU108157           7747         43931         SAU802510         19809         55993         EBC103102         31870         68054         PPU108163           7748         43932         SAU801677         19810         55994         EBC103106         31871         68055         PPU108165           7749         43933         SAU800490         19811         55995         EBC103107         31872         68056         PPU108168   | 774  | 43925     | SAU802606  | 19803        | 55987   | EBC103092    | 31864 | 68048   | PPU108105     |
| 7744         43928         SAU800001         19806         55990         EBC103098         31867         68051         PPU108141           7745         43929         SAU700396         19807         55991         EBC103099         31868         68052         PPU108153           7746         43930         SAU802249         19808         55992         EBC103101         31869         68053         PPU108157           7747         43931         SAU802510         19809         55993         EBC103102         31870         68054         PPU108163           7748         43932         SAU801677         19810         55994         EBC103106         31871         68055         PPU108165           7749         43933         SAU800490         19811         55995         EBC103107         31872         68056         PPU108168  | 7.74 | 2 43926   | SAU802230  | 19804        | 55988   | EBC103094    | 31865 | 68049   | PPU108108     |
| 7744         43928         SAU800001         19806         55990         EBC103098         31867         68051         PPU108141           7745         43929         SAU700396         19807         55991         EBC103099         31868         68052         PPU108153           7746         43930         SAU802249         19808         55992         EBC103101         31869         68053         PPU108157           7747         43931         SAU802510         19809         55993         EBC103102         31870         68054         PPU108163           7748         43932         SAU801677         19810         55994         EBC103106         31871         68055         PPU108165           7749         43933         SAU800490         19811         55995         EBC103107         31872         68056         PPU108168  | 774  | 3 43927   | SAU800942  | 19805        | 55989   | EBC103096    | 31866 | 68050   | PPU108140     |
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| 7750 43934 SAU801179 19812 55996 EBC103112 31873 68057 PPU108173   |      |           |  |              | 55995   |              | 31872 | 68056   | PPU108168     |
|  | 775  | 0 43934   | SAU801179  | 19812        | 55996   | EBC103112    | 31873 | 68057   | PPU108173     |

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| DNA  | WO    | 02/07/103 |              |       |         |              |       | 1 C 1/ USC | 12/05107         |
|--|-------|-----------|--------------|-------|---------|--------------|-------|------------|------------------|
| T751   | DNA   | Protein   | Gene LocusID | DNA   | Protein | Gene LocusID | DNA   | Protein    | Gene LocusID     |
| 7752         43936         SAUR02276         19814         55998         BBC103120         31875         68050         PPU108189           7753         43937         SAUR05090         19816         56000         BBC103123         31876         68060         PPU108197           7755         43939         SAUR00593         19817         56001         BBC103135         31878         68062         PPU108197           7756         43940         SAUR01490         19819         56003         BBC103139         31880         68063         PPU108202           7757         43941         SAUR01514         19820         56004         EBC1031342         31881         68065         PPU108239           7759         43942         SAUR01513         19821         56005         EBC103143         31882         68066         PPU108235           7761         43944         SAUR02122         19823         56007         EBC103152         31884         68067         PPU108252           7761         43945         SAUR01231         19823         56010         EBC103158         31887         68071         PPU108252           7762         43948         SAUR01231         19825         56012         EBC10315 | SeqID | SeqID     |              | SeqID | SeqID   |              | SeqID | SeqID      |                  |
| 7752         43936         SAUR02276         19814         55998         BBC103120         31875         68050         PPU108189           7753         43937         SAUR05090         19816         56000         BBC103123         31876         68060         PPU108197           7755         43939         SAUR00593         19817         56001         BBC103135         31878         68062         PPU108197           7756         43940         SAUR01490         19819         56003         BBC103139         31880         68063         PPU108202           7757         43941         SAUR01514         19820         56004         EBC1031342         31881         68065         PPU108239           7759         43942         SAUR01513         19821         56005         EBC103143         31882         68066         PPU108235           7761         43944         SAUR02122         19823         56007         EBC103152         31884         68067         PPU108252           7761         43945         SAUR01231         19823         56010         EBC103158         31887         68071         PPU108252           7762         43948         SAUR01231         19825         56012         EBC10315 | 77.51 | 12025     | GATIOOOGE    | 10012 | 55007   | ED C102110   | 21074 | 60050      | DDI I 1 00 1 5 / |
| 7753         43937         SAUR02713         19815         55999         EBC103122         31876         68060         PPU108197           7754         43938         SAU801580         19817         56001         EBC103135         31876         68061         PPU108200           7756         43940         SAU801487         19818         56002         EBC103139         31878         68062         PPU108200           7757         43941         SAU801514         19820         56004         EBC103139         31887         68064         PPU108230           7758         43942         SAU801513         19821         56005         EBC103143         31881         68066         PPU108235           7760         43944         SAU802122         19823         56007         EBC103149         31883         68067         PPU108275           7761         43945         SAU801230         19825         56007         EBC103158         31885         68068         PPU108273           7762         43946         SAU801230         19826         56010         EBC103156         31886         68070         PPU108272           7762         43948         SAU801271         19826         56011         EBC103170 |       |           |              |       |         |              |       |            |                  |
| 7754         49398         SAU801580         19816         56000         BEL(103134)         31877         68061         PPU108202           7756         43940         SAU801487         19818         56002         BEC103136         31879         68063         PPU108202           7757         43941         SAU801487         19818         56002         BEC103139         31880         68064         PPU108202           7758         43942         SAU801511         19821         56006         BEC103142         31881         68064         PPU108229           7760         43943         SAU801512         19821         56005         BEC103143         31883         68066         PPU108223           7760         43944         SAU802162         19823         56007         BEC103164         31884         68068         PPU108227           7604         43945         SAU802448         19824         56008         BEC103165         31884         68068         PPU108227           7763         43948         SAU801230         19825         56010         BEC103166         31886         68070         PPU108227           7764         43954         SAU8002131         19829         56012         BEC103 |       |           |              |       |         |              |       |            |                  |
| 7755         43940         SAU800593         19818         56001         BED(103135)         31878         68062         PPU108202           7757         43941         SAU801490         19818         56002         BED(103139)         31880         68064         PPU108230           7758         43942         SAU801514         19821         56005         BED(103142)         31881         68065         PPU108235           7760         43943         SAU802162         19822         56005         BED(103142)         31883         68067         PPU108235           7761         43944         SAU802162         19823         56006         BED(103149)         31883         68067         PPU1082372           7762         43945         SAU802481         19823         56006         BED(103158)         31885         68069         PPU1082372           7763         43947         SAU801230         19825         56010         BED(103168)         31887         68071         PPU108228           7764         43949         SAU801231         19828         56012         BED(103168)         31887         68071         PPU108232           7766         43949         SAU801301         19828         56012 |       |           |              |       |         |              |       |            |                  |
| 7756         43940         SAU801487         19818         56002         BEC103136         31879         68063         PPU108230           7757         43941         SAU801514         19820         56004         BEC103142         31881         68064         PPU108239           7759         43942         SAU801513         19821         56006         BEC103143         31881         68066         PPU108239           7760         43944         SAU801252         19823         56006         BEC103143         31883         68066         PPU108237           7761         43945         SAU802448         19824         56008         BEC103152         31884         68068         PPU1082273           7762         43946         SAU802448         19824         56008         BEC103166         31886         68070         PPU1082273           7763         43947         SAU800710         19823         56011         BEC103166         31886         68070         PPU108229           7764         43949         SAU801231         19829         56011         BEC103176         31889         68073         PPU108281           7766         43951         SAU801311         19829         56012         BEC1031 |       |           |              |       |         |              |       |            |                  |
| 7757         43941         SAURS01490         19819         56003         EEC103139         31880         68064         PPU108239           7758         43942         SAURS01513         19820         56004         EBC103143         31882         68065         PPU108235           7760         43944         SAURS02162         19823         56007         EBC103149         31883         68067         PPU108255           7761         43944         SAURS0248         19823         56007         EBC103152         31884         68068         PPU108272           7762         43946         SAURS0248         19824         56008         EBC103152         31884         68067         PPU108235           7763         43947         SAURS01301         19825         56009         EBC103166         31886         68071         PPU108238           7764         43948         SAURS01231         19827         56011         EBC103175         31889         68071         PPU108232           7766         43951         SAURS01401         19828         56012         EBC103175         31889         68071         PPU108232           7766         43953         SAURS01401         19830         56014         EB |       |           |              |       |         |              |       |            |                  |
| 7758         43942         SAUS01514         19820         56004         EBC103142         31881         68065         PPU108239           7759         43943         SAUS01513         19821         56005         EBC103149         31882         68066         PPU108258           7761         43944         SAUS01252         19823         56007         EBC103149         31883         68067         PPU108258           7762         43946         SAUS02448         19824         56009         EBC103152         31884         68068         PPU108272           7763         43946         SAUS02443         19825         56009         BEC103166         31885         68070         PPU108252           7764         43948         SAUS01231         19825         5601         BEC103166         31887         68072         PPU108225           7766         43950         SAUS01271         19828         56012         EBC103175         31889         68072         PPU108292           7767         43951         SAUS01470         19828         56012         EBC103182         31890         68075         PPU108219           7768         43952         SAUS01471         19830         56014         EBC103182< |       |           |              |       |         |              |       |            |                  |
| 7759         43944         SAUR01513         19821         56005         EBC103149         31882         68066         PPU108255           7760         43944         SAUR021252         19823         56006         EBC103152         31884         68068         PPU108273           7762         43945         SAUR02448         19824         56008         EBC103152         31884         68068         PPU108273           7763         43947         SAUR002448         19824         56009         EBC103166         31886         68079         PPU108273           7763         43948         SAUR01230         19826         56010         EBC103168         31887         68071         PPU108225           7765         43949         SAUR012710         19828         56012         EBC103175         31889         68072         PPU108292           7766         43951         SAUR01470         19830         56012         EBC103182         31890         68074         PPU108312           7769         43953         SAUR02565         19831         56015         EBC103182         31894         68076         PPU108319           7771         43956         SAUR02565         19833         56017         EBC103 | 7757  | 43941     | SAU801490    | 19819 | 56003   | EBC103139    | 31880 | 68064      | PPU108230        |
| 7760         43944         SAUR02162         19822         56006         EBC103152         31883         68067         PPU108272           7761         43945         SAU8002481         19823         56007         EBC103158         31885         68069         PPU108272           7763         43946         SAU8002431         19825         56009         EBC103158         31885         68069         PPU108273           7763         43948         SAU801230         19825         56010         EBC103168         31887         68071         PPU108285           7765         43949         SAU801271         19828         56012         EBC103175         31889         68072         PPU108292           7766         43950         SAU802710         19828         56012         EBC103175         31889         68073         PPU108292           7766         43950         SAU801471         19830         56014         EBC103183         31890         68073         PPU108319           7768         43952         SAU801470         19831         56014         EBC103183         31890         68073         PPU108319           7776         43951         SAU800246         19833         56016         BBC1031 | 7758  | 43942     | SAU801514    | 19820 | 56004   | EBC103142    | 31881 | 68065      | PPU108239        |
| 7761         43946         SAU801252         19823         56007         EBC103152         31884         68068         PPU108273           7762         43946         SAU800448         19824         56008         EBC103156         31886         68070         PPU108273           7763         43947         SAU801230         19826         56010         EBC103166         31886         68071         PPU108285           7766         43949         SAU801231         19827         56011         EBC103175         31889         68072         PPU108292           7767         43951         SAU801301         19829         56013         EBC103182         31889         68073         PPU108292           7767         43951         SAU801471         19830         56014         EBC103182         31890         68076         PPU108312           7769         43953         SAU801471         19831         56015         EBC103183         31890         68077         PPU108312           7770         43954         SAU802564         19833         56016         EBC103193         31893         68077         PPU108319           7771         43956         SAU800422         19835         56019         EBC103193 | 7759  | 43943     | SAU801513    | 19821 | 56005   | EBC103143    | 31882 | 68066      | PPU108255        |
| 7761         43946         SAU801252         19823         56007         EBC103152         31884         68068         PPU108273           7762         43946         SAU800448         19824         56008         EBC103156         31886         68070         PPU108273           7763         43947         SAU801230         19826         56010         EBC103166         31886         68071         PPU108285           7766         43949         SAU801231         19827         56011         EBC103175         31889         68072         PPU108292           7767         43951         SAU801301         19829         56013         EBC103182         31889         68073         PPU108292           7767         43951         SAU801471         19830         56014         EBC103182         31890         68076         PPU108312           7769         43953         SAU801471         19831         56015         EBC103183         31890         68077         PPU108312           7770         43954         SAU802564         19833         56016         EBC103193         31893         68077         PPU108319           7771         43956         SAU800422         19835         56019         EBC103193 | 7760  | 43944     | SAU802162    | 19822 | 56006   | EBC103149    | 31883 | 68067      | PPU108258        |
| 7762         43946         SAU8002448         19824         56009         EBC103158         31885         68069         PPU108273           7763         43947         SAU8001230         19825         56009         EBC103168         31887         68071         PPU108285           7765         43948         SAU801231         19827         56011         EBC103175         31888         68072         PPU108292           7766         43951         SAU801301         19828         56012         EBC103175         31889         68073         PPU108292           7767         43951         SAU801471         19830         56014         EBC103182         31890         68074         PPU108312           7768         43953         SAU801471         19830         56015         EBC103186         31889         68076         PPU108312           7770         43954         SAU802565         19833         56017         EBC103195         31894         68077         PPU108319           7771         43955         SAU800329         19833         56017         EBC103195         31894         68079         PPU1083418           7773         43956         SAU800422         19833         56017         EBC103 |       | 43945     | SAU801252    | 19823 | 56007   | EBC103152    | 31884 | 68068      | PPU108272        |
| 7763         43948         SAU800743         19825         56010         EBC103166         31886         68070         PPU108285           7764         43948         SAU801231         19826         56010         EBC103168         31887         68071         PPU108285           7766         43949         SAU801231         19828         56012         EBC103175         31889         68073         PPU108291           7767         43951         SAU801401         19829         56013         EBC103182         31890         68074         PPU108312           7768         43952         SAU801470         19831         56015         EBC103183         31891         68076         PPU108315           7770         43953         SAU802564         19833         56016         EBC103195         31894         68076         PPU108316           7771         43955         SAU802564         19833         56017         EBC103195         31894         68076         PPU108319           7772         43956         SAU8003229         19834         56018         EBC103195         31894         68078         PPU108418           7773         43957         SAU800424         19835         56019         EBC10319 | 7.762 | 43946     | SAU802448    | 19824 | 56008   |              | 31885 | 68069      | PPU108273        |
| 7764         43948         SAU801230         19826         56010         EBC103168         31887         68071         PPU108285           7765         43949         SAU802710         19828         56012         EBC103175         31889         68073         PPU108292           7767         43951         SAU801301         19829         56013         EBC103182         31890         68074         PPU108315           7768         43952         SAU801471         19830         56014         EBC103183         31891         68075         PPU108315           7770         43953         SAU801470         19831         56015         EBC103186         31892         68076         PPU108315           7771         43954         SAU802565         19832         56016         EBC103192         31893         68077         PPU108318           7771         43955         SAU800329         19834         56018         EBC103197         31895         68079         PPU108418           7773         43957         SAU8002242         19835         56019         EBC103199         31896         68080         PPU108418           7774         43960         SAU800234         19836         56022         EBC10329 |       |           |              |       |         |              |       |            |                  |
| 7765         43949         SAU801231         19827         56011         EBC103175         31888         68072         PPU108291           7766         43950         SAU802110         19828         56012         EBC103175         31889         68074         PPU108312           7768         43951         SAU801471         19830         56014         EBC103183         31891         68075         PPU108315           7769         43953         SAU801470         19831         56015         EBC103186         31892         68076         PPU108319           7770         43954         SAU802564         19833         56015         EBC103195         31894         68077         PPU108346           77712         43956         SAU800329         19834         56018         EBC103197         31894         68079         PPU108418           7774         43957         SAU800329         19836         56019         EBC103197         31894         68080         PPU108418           7774         43958         SAU8002331         19836         56020         EBC103219         31897         68081         PPU108442           7776         43960         SAU802333         19838         56022         EBC1032 |       |           |              |       |         |              |       |            |                  |
| 7766         43950         SAU802710         19828         56012         EBC103175         31889         68073         PPU108292           7767         43951         SAU801471         19830         56014         EBC103183         31890         68075         PPU108315           7769         43953         SAU801470         19831         56015         EBC103186         31892         68076         PPU108319           7770         43954         SAU802565         19832         56016         EBC103198         31892         68076         PPU108319           7771         43955         SAU800256         19835         56017         EBC103192         31893         68077         PPU108319           7771         43955         SAU800226         19834         56018         EBC103197         31895         68079         PPU108418           7773         43957         SAU800223         19837         56021         EBC103199         31895         68079         PPU108419           7775         43958         SAU802332         19837         56021         EBC103201         31898         68082         PPU108442           7775         43960         SAU802333         19837         56021         EBC103220 |       |           |              |       |         |              |       |            |                  |
| 7767         43951         SAU801471         19830         56014         EBC103182         31890         68074         PPU108312           7768         43952         SAU801471         19830         56014         EBC103183         31891         68075         PPU108319           7770         43954         SAU802565         19832         56016         EBC103195         31893         68077         PPU108336           7771         43955         SAU802564         19833         56017         EBC103195         31894         68078         PPU108387           7771         43955         SAU8002264         19833         56017         EBC103195         31894         68079         PPU108418           7773         43957         SAU8002276         19836         56020         EBC103199         31896         68080         PPU108418           7774         43958         SAU802333         19838         56022         EBC103210         31890         68081         PPU108442           7776         43960         SAU800345         19840         56024         EBC103210         31900         68083         PPU108442           7777         43961         SAU800345         19841         56022         EBC1032 |       |           |              |       |         |              |       |            |                  |
| 7768         43952         SAU801471         19831         56014         EBC103183         31891         68075         PPU108315           7769         43953         SAU801470         19831         56015         EBC103186         31892         68077         PPU108319           7771         43955         SAU802564         19833         56017         EBC103195         31894         68078         PPU108387           7772         43956         SAU800329         19834         56018         EBC103195         31894         68079         PPU108419           7773         43957         SAU800226         19836         56020         EBC103199         31897         68081         PPU108419           7774         43958         SAU8002321         19836         56020         EBC103201         31897         68081         PPU108440           7777         43961         SAU800333         19837         56021         EBC103210         31890         68082         PPU108442           7777         43961         SAU800345         19840         56024         EBC103210         31900         68083         PPU108444           7777         43963         SAU801518         19842         56024         EBC10322 |       |           | 1            |       |         |              |       |            |                  |
| 7769         43953         SAU801470         19831         56015         EBC103186         31892         68076         PPU108319           7770         43954         SAU802564         19832         56016         EBC103192         31893         68077         PPU108346           7771         43955         SAU800329         19834         56018         EBC103197         31895         68078         PPU108418           7773         43957         SAU800276         19836         56019         EBC103198         31896         68080         PPU108418           7774         43958         SAU802332         19837         56021         EBC103201         31898         68081         PPU108442           7776         43960         SAU802332         19837         56021         EBC103201         31898         68082         PPU108442           7777         43961         SAU8003451         19839         56022         EBC103210         31900         68084         PPU108442           7777         43963         SAU801518         19840         56025         EBC103212         31900         68084         PPU1084442           7780         43964         SAU801518         19842         56025         EBC1032 |       |           | 1            |       |         |              |       |            |                  |
| 7770         43954         SAU802565         19832         56016         EBC103192         31893         68077         PPU108346           7771         43955         SAU802564         19833         56017         EBC103195         31894         68078         PPU108387           7772         43956         SAU800329         19834         56019         EBC103198         31896         68080         PPU108419           7774         43957         SAU800322         19837         56020         EBC103199         31897         68081         PPU108420           7775         43960         SAU802332         19837         56021         EBC103201         31899         68083         PPU108442           7777         43961         SAU800442         19839         56022         EBC103202         31899         68083         PPU108442           7778         43961         SAU800442         19841         56023         EBC103219         31900         68084         PPU108442           7778         43963         SAU801518         19841         56025         EBC103219         31902         68086         PPU108444           7780         43963         SAU801518         19842         56026         EBC103227 |       |           | 1            |       |         |              |       |            |                  |
| 7771         43955         SAU8002564         19833         56017         EBC103195         31894         68078         PPU108387           7772         43956         SAU800329         19835         56018         EBC103197         31895         680879         PPU108419           7774         43958         SAU800276         19836         56020         EBC103199         31897         68081         PPU108420           7775         43959         SAU802332         19837         56021         EBC103201         31898         68082         PPU108420           7776         43960         SAU802331         19838         56022         EBC103201         31898         68082         PPU108442           7777         43961         SAU800345         19840         56022         EBC103212         31900         68084         PPU108444           7778         43962         SAU800345         19841         56025         EBC103212         31901         68085         PPU108442           7778         43963         SAU801517         19843         56027         EBC103212         31901         68086         PPU108444           7780         43965         SAU801517         19843         56027         EBC1032 |       |           | 1            |       |         |              |       |            |                  |
| 7772         43956         SAU800329         19834         56018         EBC103197         31895         68079         PPU108418           7773         43957         SAU800422         19835         56019         EBC103199         31896         68080         PPU108419           7775         43959         SAU802332         19837         56021         EBC103201         31898         68082         PPU108442           7776         43960         SAU802333         19838         56022         EBC103202         31899         68083         PPU108440           7777         43961         SAU800345         19840         56024         EBC103212         31900         68084         PPU108446           7778         43963         SAU801518         19840         56025         EBC103212         31901         68086         PPU108448           7781         43964         SAU801518         19842         56026         EBC103222         31903         68087         PPU108448           7781         43966         SAU802151         19843         56027         EBC103222         31904         68088         PPU108448           7782         43966         SAU802217         19843         56027         EBC103225 |       |           | 4            |       |         |              |       |            |                  |
| 7773         43957         SAU800422         19835         56019         EBC103198         31896         68080         PPU108419           7774         43958         SAU800276         19836         56020         EBC103199         31897         68081         PPU108422           7776         43960         SAU802333         19838         56022         EBC103202         31899         68083         PPU108440           7777         43961         SAU300404         19839         56023         EBC103210         31900         68084         PPU108444           7778         43962         SAU800345         19840         56024         EBC103212         31901         68085         PPU108446           7779         43963         SAU8001518         19842         56025         EBC103219         31902         68086         PPU108448           7780         43964         SAU801517         19843         56027         EBC103222         31903         68087         PPU108444           7781         43965         SAU801517         19843         56029         EBC103227         31904         68089         PPU108475           7782         43968         SAU802217         19845         56029         EBC10322 |       |           | ·            |       |         |              |       |            |                  |
| 7774         43958         SAU800276         19836         56020         EBC103199         31897         68081         PPU108420           7775         43959         SAU802332         19837         56021         EBC103201         31898         68082         PPU108442           7776         43960         SAU802333         19838         56022         EBC103212         31890         68083         PPU108444           7777         43961         SAU800444         19839         56023         EBC103212         31900         68085         PPU108446           7779         43963         SAU800424         19841         56025         EBC103212         31901         68085         PPU108446           7780         43964         SAU801518         19842         56026         EBC103222         31903         68087         PPU108445           7781         43966         SAU80218         19844         56027         EBC103227         31904         68088         PPU108475           7784         43966         SAU802218         19844         56029         EBC103228         31905         68089         PPU108490           7785         43969         SAU800452         19847         56031         EBC103255< |       |           |              |       |         |              |       |            |                  |
| 7775         43959         SAU802332         19837         56021         EBC103201         31898         68082         PPU108432           7776         43960         SAU802333         19838         56022         EBC103210         31899         68083         PPU108440           7777         43961         SAU300404         19839         56023         EBC103210         31900         68084         PPU108442           7778         43963         SAU800345         19840         56024         EBC103212         31901         68085         PPU108448           7780         43964         SAU801518         19842         56026         EBC103222         31903         68087         PPU108445           7781         43965         SAU801517         19843         56027         EBC103222         31904         68088         PPU108455           7782         43966         SAU802217         19845         56029         EBC103223         31906         68099         PPU108475           7783         43967         SAU8002419         19846         56030         EBC1032251         31907         68091         PPU108490           7784         43968         SAU800452         19847         56031         EBC1032 |       |           |              |       |         |              |       |            |                  |
| 7776         43960         SAU802333         19838         56022         EBC103202         31899         68083         PPU108440           7777         43961         SAU300404         19839         56023         EBC103210         31900         68084         PPU108442           7778         43962         SAU800345         19840         56024         EBC103212         31901         68085         PPU108446           7779         43963         SAU800424         19841         56025         EBC103212         31902         68086         PPU108445           7780         43964         SAU801517         19843         56027         EBC103222         31903         68087         PPU108454           7781         43965         SAU802218         19844         56028         EBC1032228         31905         68089         PPU108475           7782         43966         SAU802217         19845         56029         EBC103225         31906         68090         PPU108487           7784         43968         SAU8002176         19845         56029         EBC1032251         31907         68091         PPU108497           7785         43969         SAU800424         19847         56031         EBC103 |       |           |              |       |         |              |       |            |                  |
| 7777         43961         SAU300404         19839         56023         EBC103210         31900         68084         PPU108442           7778         43962         SAU800345         19840         56024         EBC103212         31901         68085         PPU108446           7779         43963         SAU800424         19841         56025         EBC103219         31902         68086         PPU108448           7780         43964         SAU801518         19842         56026         EBC103227         31904         68088         PPU108454           7781         43965         SAU801517         19843         56027         EBC1032227         31904         68088         PPU108457           7782         43966         SAU802218         19844         56028         EBC103228         31905         68089         PPU108488           7783         43967         SAU802419         19846         56030         EBC1032255         31906         68099         PPU108497           7784         43968         SAU800452         19847         56031         EBC103255         31908         68092         PPU108507           7786         43970         SAU800536         19849         56032         EBC1032 |       |           |              |       |         |              |       |            |                  |
| 7778         43962         SAU800345         19840         56024         EBC103212         31901         68085         PPU108446           7779         43963         SAU800424         19841         56025         EBC103219         31902         68086         PPU108448           7780         43964         SAU801518         19842         56026         EBC103222         31903         68087         PPU108454           7781         43965         SAU801517         19843         56027         EBC103228         31904         68088         PPU108475           7782         43966         SAU802218         19844         56028         EBC103228         31905         68089         PPU108490           7784         43968         SAU802419         19846         56030         EBC103255         31906         68090         PPU108490           7785         43969         SAU800452         19847         56031         EBC103255         31908         68092         PPU108507           7786         43970         SAU8002176         19848         56032         EBC103255         31909         68093         PPU108507           7787         43971         SAU800133         19850         56034         EBC10326 |       |           |              |       |         |              |       |            |                  |
| 7779         43963         SAU800424         19841         56025         EBC103219         31902         68086         PPU108448           7780         43964         SAU801518         19842         56026         EBC103222         31903         68087         PPU108454           7781         43965         SAU801517         19843         56027         EBC103227         31904         68088         PPU108475           7782         43966         SAU802218         19844         56028         EBC103228         31905         68089         PPU108489           7784         43968         SAU802217         19845         56029         EBC103236         31906         68090         PPU108490           7785         43969         SAU800452         19847         56031         EBC103255         31908         68092         PPU108507           7786         43970         SAU800176         19848         56032         EBC103267         31909         68093         PPU108510           7787         43971         SAU800173         19850         56034         EBC103267         31909         68099         PPU108515           7789         43973         SAU800173         19850         56034         EBC103287 |       |           | SAU300404    | 19839 | 56023   | EBC103210    | 31900 | 68084      | PPU108442        |
| 7780         43964         SAU801518         19842         56026         EBC103222         31903         68087         PPU108454           7781         43965         SAU801517         19843         56027         EBC103227         31904         68088         PPU108475           7782         43966         SAU802218         19844         56028         EBC103228         31905         68089         PPU1084488           7783         43967         SAU802217         19845         56029         EBC103236         31906         68090         PPU108490           7784         43968         SAU800452         19847         56031         EBC103255         31908         68092         PPU108497           7785         43969         SAU800452         19848         56032         EBC103267         31908         68092         PPU108507           7786         43970         SAU800536         19849         56033         EBC103267         31909         68093         PPU108510           7788         43972         SAU800173         19850         56034         EBC103271         31911         68095         PPU108515           7789         43973         SAU8002344         19851         56035         EBC1032 | 7778  | 43962     | SAU800345    | 19840 | 56024   | EBC103212    | 31901 | 68085      | PPU108446        |
| 7781         43965         SAU801517         19843         56027         EBC103227         31904         68088         PPU108475           7782         43966         SAU802218         19844         56028         EBC103228         31905         68089         PPU108488           7783         43967         SAU802417         19845         56029         EBC103236         31906         68090         PPU108490           7784         43968         SAU802419         19846         56030         EBC103255         31906         68091         PPU108497           7785         43969         SAU800452         19847         56031         EBC103255         31908         68092         PPU108507           7786         43970         SAU502176         19848         56032         EBC103267         31909         68093         PPU108509           7787         43971         SAU800536         19849         56033         EBC103267         31909         68093         PPU108510           7788         43972         SAU800173         19850         56034         EBC103285         31911         68096         PPU108515           7790         43974         SAU800538         19851         56035         EBC103287 | 7779  | 43963     | SAU800424    | 19841 | 56025   | EBC103219    | 31902 | 68086      | PPU108448        |
| 7782         43966         SAU802218         19844         56028         EBC103228         31905         68089         PPU108488           7783         43967         SAU802217         19845         56029         EBC103236         31906         68090         PPU108490           7784         43968         SAU802419         19846         56030         EBC103251         31907         68091         PPU108497           7785         43969         SAU800452         19847         56031         EBC103255         31908         68092         PPU108507           7786         43970         SAU502176         19848         56032         EBC103267         31909         68093         PPU108509           7787         43971         SAU800536         19849         56033         EBC103269         31910         68094         PPU108510           7788         43972         SAU800173         19850         56034         EBC1032271         31911         68095         PPU108515           7790         43974         SAU800588         19851         56035         EBC103287         31913         68097         PPU108519           7791         43975         SAU800540         19854         56038         EBC10328 | 7780  | 43964     | SAU801518    | 19842 | 56026   | EBC103222    | 31903 | 68087      | PPU108454        |
| 7783         43967         SAU802217         19845         56029         EBC103236         31906         68090         PPU108490           7784         43968         SAU802419         19846         56030         EBC103251         31907         68091         PPU108497           7785         43969         SAU800452         19847         56031         EBC103255         31908         68092         PPU108507           7786         43970         SAU502176         19848         56032         EBC103267         31909         68093         PPU108509           7787         43971         SAU800536         19849         56033         EBC103267         31910         68094         PPU108510           7788         43972         SAU800173         19850         56034         EBC103271         31911         68095         PPU108515           7789         43973         SAU800244         19851         56035         EBC103285         31912         68096         PPU108517           7790         43974         SAU800588         19853         56036         EBC103287         31913         68097         PPU108519           7791         43975         SAU801758         19854         56038         EBC103289 | 7781  | 43965     | SAU801517    | 19843 | 56027   | EBC103227    | 31904 | 68088      | PPU108475        |
| 7783         43967         SAU802217         19845         56029         EBC103236         31906         68090         PPU108490           7784         43968         SAU802419         19846         56030         EBC103251         31907         68091         PPU108497           7785         43969         SAU800452         19847         56031         EBC103255         31908         68092         PPU108507           7786         43970         SAU502176         19848         56032         EBC103267         31909         68093         PPU108507           7787         43971         SAU800536         19849         56033         EBC103269         31910         68094         PPU108510           7788         43972         SAU800173         19850         56034         EBC103285         31911         68095         PPU108515           7789         43973         SAU800244         19851         56035         EBC103285         31912         68096         PPU108517           7791         43975         SAU800588         19853         56036         EBC103287         31913         68097         PPU108522           7792         43976         SAU801758         19854         56038         EBC103289 | 7782  | 43966     | SAU802218    | 19844 | 56028   | EBC103228    | 31905 | 68089      | PPU108488        |
| 7784         43968         SAU802419         19846         56030         EBC103251         31907         68091         PPU108497           7785         43969         SAU800452         19847         56031         EBC103255         31908         68092         PPU108507           7786         43970         SAU502176         19848         56032         EBC103267         31909         68093         PPU108509           7787         43971         SAU800536         19849         56033         EBC103269         31910         68094         PPU108510           7788         43972         SAU800173         19850         56034         EBC103287         31911         68095         PPU108515           7789         43973         SAU802378         19852         56036         EBC103285         31912         68096         PPU108515           7790         43974         SAU802378         19852         56036         EBC103288         31914         68097         PPU108519           7791         43975         SAU800588         19853         56037         EBC103288         31915         68099         PPU108525           7792         43976         SAU8001758         19854         56038         EBC10328 | 7783  | 43967     | SAU802217    | 19845 | 56029   |              | 31906 |            | PPU108490        |
| 7785         43969         SAU800452         19847         56031         EBC103255         31908         68092         PPU108507           7786         43970         SAU502176         19848         56032         EBC103267         31909         68093         PPU108509           7787         43971         SAU800536         19849         56033         EBC103269         31910         68094         PPU108510           7788         43972         SAU800173         19850         56034         EBC103287         31911         68095         PPU108515           7789         43973         SAU800244         19851         56035         EBC103285         31912         68096         PPU108517           7790         43974         SAU802378         19852         56036         EBC103287         31913         68097         PPU108519           7791         43975         SAU800588         19853         56037         EBC103288         31914         68098         PPU108522           7792         43976         SAU801758         19854         56038         EBC103289         31915         68099         PPU108525           7793         43978         SAU801354         19856         56040         EBC103291 | 7784  | 43968     | SAU802419    | 19846 |         | EBC103251    |       |            |                  |
| 7786         43970         SAU502176         19848         56032         EBC103267         31909         68093         PPU108509           7787         43971         SAU800536         19849         56033         EBC103269         31910         68094         PPU108510           7788         43972         SAU800173         19850         56034         EBC103271         31911         68095         PPU108515           7789         43973         SAU800244         19851         56035         EBC103285         31912         68096         PPU108517           7790         43974         SAU802378         19852         56036         EBC103287         31913         68097         PPU108519           7791         43975         SAU800588         19853         56037         EBC103288         31914         68098         PPU108522           7792         43976         SAU800749         19855         56039         EBC103289         31915         68099         PPU108553           7793         43977         SAU8001354         19856         56040         EBC103292         31916         68100         PPU108559           7795         43979         SAU800540         19858         56041         EBC10329 | 7785  | 43969     | SAU800452    | 19847 |         |              |       | 68092      |                  |
| 7787         43971         SAU800536         19849         56033         EBC103269         31910         68094         PPU108510           7788         43972         SAU800173         19850         56034         EBC103271         31911         68095         PPU108515           7789         43973         SAU800244         19851         56035         EBC103285         31912         68096         PPU108517           7790         43974         SAU802378         19852         56036         EBC103287         31913         68097         PPU108519           7791         43975         SAU800588         19853         56037         EBC103288         31914         68098         PPU108522           7792         43976         SAU801758         19854         56038         EBC103289         31915         68099         PPU108525           7793         43977         SAU800974         19855         56039         EBC103291         31916         68100         PPU108553           7794         43978         SAU800540         19857         56041         EBC103292         31917         68101         PPU108559           7795         43980         SAU800541         19858         56042         EBC103299 |       |           |              |       |         |              |       |            |                  |
| 7788         43972         SAU800173         19850         56034         EBC103271         31911         68095         PPU108515           7789         43973         SAU800244         19851         56035         EBC103285         31912         68096         PPU108517           7790         43974         SAU802378         19852         56036         EBC103287         31913         68097         PPU108519           7791         43975         SAU800588         19853         56037         EBC103288         31914         68098         PPU108522           7792         43976         SAU801758         19854         56038         EBC103289         31915         68099         PPU108525           7793         43977         SAU800974         19855         56039         EBC103291         31916         68100         PPU108553           7794         43978         SAU801354         19856         56040         EBC103292         31917         68101         PPU108559           7795         43980         SAU800540         19857         56041         EBC103299         31918         68102         PPU108584           7797         43981         SAU802547         19859         56043         EBC103300 |       |           |              |       |         |              |       |            |                  |
| 7789         43973         SAU800244         19851         56035         EBC103285         31912         68096         PPU108517           7790         43974         SAU802378         19852         56036         EBC103287         31913         68097         PPU108519           7791         43975         SAU800588         19853         56037         EBC103288         31914         68098         PPU108522           7792         43976         SAU801758         19854         56038         EBC103289         31915         68099         PPU108525           7793         43977         SAU800974         19855         56039         EBC103291         31916         68100         PPU108553           7794         43978         SAU801354         19856         56040         EBC103292         31917         68101         PPU108559           7795         43979         SAU800540         19857         56041         EBC103297         31918         68102         PPU108560           7796         43980         SAU800541         19858         56042         EBC103299         31919         68103         PPU108584           7797         43981         SAU801093         19860         56043         EBC103303 |       |           |              |       |         |              |       |            |                  |
| 7790         43974         SAU802378         19852         56036         EBC103287         31913         68097         PPU108519           7791         43975         SAU800588         19853         56037         EBC103288         31914         68098         PPU108522           7792         43976         SAU801758         19854         56038         EBC103289         31915         68099         PPU108525           7793         43977         SAU800974         19855         56039         EBC103291         31916         68100         PPU108553           7794         43978         SAU801354         19856         56040         EBC103292         31917         68101         PPU108559           7795         43979         SAU800540         19857         56041         EBC103297         31918         68102         PPU108560           7796         43980         SAU800541         19858         56042         EBC1033299         31919         68103         PPU108584           7797         43981         SAU80193         19869         56043         EBC103300         31920         68104         PPU108585           7798         43983         SAU800191         19861         56045         EBC103305 |       |           |              |       |         |              |       |            |                  |
| 7791         43975         SAU800588         19853         56037         EBC103288         31914         68098         PPU108522           7792         43976         SAU801758         19854         56038         EBC103289         31915         68099         PPU108525           7793         43977         SAU800974         19855         56039         EBC103291         31916         68100         PPU108553           7794         43978         SAU801354         19856         56040         EBC103292         31917         68101         PPU108559           7795         43979         SAU800540         19857         56041         EBC103297         31918         68102         PPU108560           7796         43980         SAU800541         19858         56042         EBC103299         31919         68103         PPU108584           7797         43981         SAU802547         19859         56043         EBC103300         31920         68104         PPU108585           7798         43982         SAU801093         19860         56044         EBC103303         31921         68105         PPU108596           7800         43984         SAU800265         19862         56046         EBC103306 |       |           |              |       |         |              |       |            |                  |
| 7792         43976         SAU801758         19854         56038         EBC103289         31915         68099         PPU108525           7793         43977         SAU800974         19855         56039         EBC103291         31916         68100         PPU108553           7794         43978         SAU801354         19856         56040         EBC103292         31917         68101         PPU108559           7795         43979         SAU800540         19857         56041         EBC103297         31918         68102         PPU108560           7796         43980         SAU800541         19858         56042         EBC103299         31919         68103         PPU108584           7797         43981         SAU802547         19859         56043         EBC103300         31920         68104         PPU108585           7798         43982         SAU801093         19860         56044         EBC103303         31921         68105         PPU108596           7799         43983         SAU800265         19862         56046         EBC103305         31922         68106         PPU108643           7801         43985         SAU800266         19863         56047         EBC103307 |       |           |              |       |         |              |       |            |                  |
| 7793         43977         SAU800974         19855         56039         EBC103291         31916         68100         PPU108553           7794         43978         SAU801354         19856         56040         EBC103292         31917         68101         PPU108559           7795         43979         SAU800540         19857         56041         EBC103297         31918         68102         PPU108560           7796         43980         SAU800541         19858         56042         EBC103299         31919         68103         PPU108584           7797         43981         SAU802547         19859         56043         EBC103300         31920         68104         PPU108585           7798         43982         SAU801093         19860         56044         EBC103303         31921         68105         PPU108596           7799         43983         SAU800191         19861         56045         EBC103305         31922         68106         PPU108615           7801         43985         SAU800265         19862         56046         EBC103306         31923         68107         PPU108643           7802         43986         SAU800259         19864         56048         EBC103336 |       |           |              |       |         |              |       |            | •                |
| 7794         43978         SAU801354         19856         56040         EBC103292         31917         68101         PPU108559           7795         43979         SAU800540         19857         56041         EBC103297         31918         68102         PPU108560           7796         43980         SAU800541         19858         56042         EBC103299         31919         68103         PPU108584           7797         43981         SAU802547         19859         56043         EBC103300         31920         68104         PPU108585           7798         43982         SAU801093         19860         56044         EBC103303         31921         68105         PPU108596           7799         43983         SAU800191         19861         56045         EBC103305         31922         68106         PPU108615           7800         43984         SAU800265         19862         56046         EBC103306         31923         68107         PPU108643           7801         43985         SAU800266         19863         56047         EBC103307         31924         68108         PPU108646           7803         43987         SAU800720         19865         56049         EBC103336 |       |           |              |       |         |              |       |            |                  |
| 7795         43979         SAU800540         19857         56041         EBC103297         31918         68102         PPU108560           7796         43980         SAU800541         19858         56042         EBC103299         31919         68103         PPU108584           7797         43981         SAU802547         19859         56043         EBC103300         31920         68104         PPU108585           7798         43982         SAU801093         19860         56044         EBC103303         31921         68105         PPU108596           7799         43983         SAU800191         19861         56045         EBC103305         31922         68106         PPU108615           7800         43984         SAU800265         19862         56046         EBC103306         31923         68107         PPU108643           7801         43985         SAU800266         19863         56047         EBC103307         31924         68108         PPU108646           7802         43986         SAU802059         19864         56048         EBC103319         31925         68109         PPU108658           7804         43988         SAU8002254         19866         56050         EBC10333 |       |           |              |       |         |              |       |            |                  |
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| 7847         | 44031            | SAU802187              | 19909          | 56093            | EBC103552              | 31970          | 68154            | PPU109268              |  |
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| 7.970        | 44154          | SAU802222              | 20031          | 56216          | EBC103981<br>EBC103982 | 32092          | 68277          | PPU111169              |
| 1.5 1 0      | 1115           | 5.10002222             |                |                | 103902                 |                | OUMII          |                        |
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| •            |                  |                        |                | 326              |                        |                |                  |                        |

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| 8063         | 44247            | SAU801905    | 20125        | 56309            | EBC104475    | 32186        | 68370            | PRT100032    |
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|              | •                |              |              | <b>32</b> 7      |              |              |                  |              |

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|-------------|----------|--------------|-------|---------|---------------|---------|---------|------------------|
| DNA         | Protein  | Gene LocusID | DNA   | Protein | Gene LocusID  | DNA     | Protein | Gene LocusID     |
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| 8085        | 44269    | SAU802004    | 20147 | 56331   | EBC104578     | 32208   | 68392   | PRT100160        |
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| DNA   Protein   Gene LocusID   SeqID   SeqID | WO 02/077183 |       |   |       |       |              | PCT/US | 02/09107 |              |
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| 8151         44335         SAU801908         20213         56397         ECO100003         32274         68458         PRT100612           8152         44336         SAU802152         20214         56398         ECO100016         32275         68459         PRT100620           8154         44338         SAU802112         20216         56400         ECO100022         32277         68461         PRT100621           8155         44339         SAU802111         20217         56401         ECO100031         32278         68462         PRT100632           8156         44340         SAU800830         20219         56403         ECO100043         32278         68464         PRT100632           8157         44341         SAU800829         20219         56403         ECO100051         32280         68464         PRT100638           8158         44342         SAU801703         20221         56403         ECO100073         32281         68467         PRT100638           8160         44344         SAU800255         20222         56406         ECO100073         32284         68467         PRT100660           8161         44345         SAU8001738         20225         56407         ECO10007   |              |       |   |       |       |              |        |          |              |
| 8152         44336         SAU802152         20214         56398         ECO100014         32275         68459         PRT100619           8153         44337         SAU802112         20215         56399         ECO100022         32277         68461         PRT100621           8154         44338         SAU802111         20217         56401         ECO100031         32278         68462         PRT100628           8156         44340         SAU800830         20218         56402         ECO100043         32229         68463         PRT100628           8157         44341         SAU801269         20219         56403         ECO100061         32281         68464         PRT100638           8158         44343         SAU801703         20221         56404         ECO100072         32282         68466         PRT100660           8161         44344         SAU800256         20223         56405         ECO100073         32284         68468         PRT100660           8161         44345         SAU800256         20222         56406         ECO100072         32284         68468         PRT100660           8163         44344         SAU801373         20225         56405         ECO100082   |              |       |   |       |       |              |        |          |              |
| 8153         44337         SAU800312         20215         56399         ECO100016         32276         68460         PRT100620           8154         44338         SAU802112         20216         56400         ECO100022         32277         68462         PRT100621           8155         44340         SAU800830         20218         56402         ECO100048         32279         68463         PRT100632           8157         44341         SAU80029         20220         56404         ECO100061         32281         68464         PRT100638           8158         44343         SAU801269         20220         56405         ECO100072         32280         68466         PRT100650           8160         44344         SAU801269         20222         56406         ECO100072         32283         68467         PRT100650           8161         44344         SAU80255         20222         56406         ECO100072         32283         68467         PRT100665           8162         44346         SAU801738         20225         56408         ECO100082         32285         68469         PRT100667           8163         454349         SAU801738         20225         56419         ECO100088<   |              |       |   |       |       |              |        |          |              |
| 8154         44338         SAU802112         20216         56400         ECO100022         32277         68461         PRT100621           8155         44339         SAU800130         20218         56401         ECO100048         32278         68462         PRT100628           8156         44341         SAU800829         20219         56403         ECO100064         32279         68464         PRT100638           8158         44342         SAU801269         20220         56404         ECO100064         32281         68465         PRT100638           8160         44343         SAU801703         20221         56405         ECO100072         32282         68466         PRT100650           8161         44344         SAU800256         20223         56407         ECO100073         32284         68468         PRT100665           8162         44346         SAU801738         20225         56407         ECO100082         32285         68467         PRT100665           8163         44344         SAU801738         20222         56408         ECO100084         32286         68470         PRT100675           8163         44349         SAU800344         20226         56410         ECO100085   |              |       |   |       |       |              |        |          |              |
| 8155         44339         SAU800311         20217         56401         ECO100031         32278         68462         PRT100628           8156         44340         SAU800830         20218         56402         ECO100048         32279         68463         PRT100632           8157         44341         SAU801269         20220         56404         ECO100064         32281         68465         PRT100644           8159         44343         SAU801703         20221         56405         ECO100077         32283         68467         PRT100665           8161         44345         SAU800256         20223         56407         ECO100073         32283         68468         PRT100665           8162         44346         SAU802076         20224         56408         ECO100082         32285         68469         PRT100665           8163         44347         SAU801333         20225         56408         ECO100082         32285         68469         PRT100665           8164         44348         SAU800344         20226         56410         ECO100085         32287         68471         PRT100667           8165         44350         SAU801523         20227         56411         ECO100087   |              |       |   |       |       |              |        |          |              |
| 8156         44340         SAU800830         20218         56402         ECO100051         32279         68463         PRT100632           8157         44341         SAU800829         20220         56403         ECO100051         32280         68464         PRT100634           8158         44343         SAU801703         20221         56405         ECO100072         32282         68466         PRT100650           8160         44344         SAU800255         20222         56406         ECO100077         32283         68467         PRT100660           8161         44345         SAU800256         20223         56407         ECO100082         32285         68469         PRT100665           8162         44346         SAU800256         20223         56407         ECO100082         32285         68469         PRT100667           8163         44347         SAU801738         20225         56409         ECO100084         32286         68470         PRT100675           8164         44359         SAU801523         20227         56411         ECO100085         32287         68471         PRT100704           8166         44350         SAU801523         20228         56412         ECO100087   |              |       |   |       |       |              |        |          |              |
| 8157         44341         SAU800829         20219         56403         ECO100061         32280         68464         PRT100638           8158         44342         SAU801269         20220         56404         ECO100064         32281         68465         PRT100650           8160         44343         SAU800255         20221         56405         ECO100077         32283         68467         PRT100660           8161         44344         SAU800256         20223         56407         ECO100078         32283         68467         PRT100665           8162         44346         SAU802076         20224         56408         ECO100082         32285         68469         PRT100675           8164         44348         SAU800344         20226         56410         ECO100085         32287         68471         PRT100675           8164         44348         SAU802555         20227         56411         ECO100085         32287         68471         PRT100679           8165         44349         SAU802555         20227         56412         ECO100086         32288         68472         PRT100706           8167         44351         SAU801523         20228         56412         ECO100088   |              |       |   |       |       |              |        |          |              |
| 8158         44342         SAU801269         20220         56404         ECO100064         32281         68465         PRT100644           8159         44343         SAU801703         20221         56406         ECO100077         32283         68467         PRT100650           8161         44344         SAU800256         20223         56407         ECO100078         32284         68468         PRT100665           8162         44346         SAU802076         20224         56408         ECO100082         32285         68469         PRT100667           8163         44347         SAU801738         20225         56409         ECO100084         32286         68470         PRT100675           8165         44349         SAU801523         20225         56410         ECO100085         32287         68471         PRT100704           8166         44350         SAU801523         20228         56412         ECO100087         32289         68472         PRT100707           8168         44352         SAU800156         20230         56414         ECO100089         32291         68475         PRT100708           8169         44353         SAU102585         20231         56416         ECO100089   |              |       |   |       |       |              |        |          |              |
| 8159         44343         SAU801703         20221         56405         ECO1000772         32282         68466         PRT100650           8160         443445         SAU800255         20222         56406         ECO1000773         32284         68467         PRT100665           8161         44345         SAU800276         20224         56408         ECO100082         32285         68469         PRT100667           8163         44347         SAU801738         20225         56409         ECO100084         32286         68470         PRT100675           8164         44348         SAU800344         20226         56410         ECO100085         32286         68471         PRT100764           8166         44350         SAU801523         20228         56412         ECO100087         32289         68473         PRT100706           8167         44351         SAU800156         20230         56412         ECO100088         32290         68474         PRT100707           8168         44352         SAU800156         20231         56415         ECO100088         32291         68476         PRT100707           8167         44354         SAU80117         20231         56415         ECO1000   |              |       |   |       |       |              |        |          |              |
| 8160         44344         SAU800255         20222         56406         ECO100077         32283         68467         PRT100660           8161         44345         SAU800256         20223         56407         ECO100078         32284         68468         PRT100665           8162         44346         SAU802076         20224         56408         ECO100084         32286         68470         PRT100667           8163         44347         SAU801738         20225         56409         ECO100085         32286         68470         PRT100675           8164         44348         SAU801523         20225         56411         ECO100085         32287         68471         PRT100704           8166         44350         SAU801523         20228         56412         ECO100087         32289         68473         PRT100706           8167         44351         SAU800156         20230         56414         ECO100088         32291         68475         PRT100706           8169         44353         SAU102585         20231         56415         ECO100088         32291         68476         PRT100712           8171         44355         SAU801192         20232         56415         ECO100098   |              |       |   |       |       |              |        |          |              |
| 8161         44345         SAU800256         20223         56407         ECO100078         32284         68468         PRT100665           8162         44346         SAU802076         20224         56409         ECO100082         32285         68469         PRT1006675           8163         44347         SAU801738         20225         56409         ECO100084         32286         68470         PRT100675           8164         44348         SAU800344         20226         56410         ECO100085         32287         68471         PRT100704           8165         44349         SAU801523         20228         56412         ECO100086         32288         68472         PRT100704           8166         44350         SAU801523         20228         56412         ECO100088         32290         68474         PRT100707           8168         44351         SAU800156         20230         56414         ECO100089         32291         68475         PRT100708           8169         44353         SAU80116         20232         56416         ECO100099         32292         68476         PRT100712           8171         44356         SAU800116         20232         56416         ECO100013   |              |       |   |       |       |              |        |          |              |
| 8162         44346         SAU802076         20224         56408         ECO100082         32285         68469         PRT100667           8163         44347         SAU801738         20225         56409         ECO100084         32286         68470         PRT100675           8164         44348         SAU800344         20226         56410         ECO100085         32287         68471         PRT100704           8165         44349         SAU802555         20227         56411         ECO100086         32288         68472         PRT100704           8166         44350         SAU801523         20228         56412         ECO100088         32290         68474         PRT100707           8168         44352         SAU800156         20230         56414         ECO100089         32291         68475         PRT100708           8169         44353         SAU801396         20232         56416         ECO100090         32292         68476         PRT100712           8171         44355         SAU80117         20233         56417         ECO100098         32294         68478         PRT100712           8172         44356         SAU801172         20235         56417         ECO1000134   |              |       |   |       |       |              |        |          |              |
| 8163         44347         SAU801738         20225         56409         EC0100084         32286         68470         PRT100675           8164         44348         SAU800344         20226         56410         EC0100085         32287         68471         PRT100704           8165         44349         SAU801523         20228         56412         EC0100087         32288         68472         PRT100706           8166         44351         SAU8001523         20228         56412         EC0100087         32289         68473         PRT100706           8167         44351         SAU800156         20230         56414         EC0100089         32291         68475         PRT100707           8168         44353         SAU80158         20231         56415         EC0100090         32292         68476         PRT100712           8170         44354         SAU801179         20232         56416         EC0100098         32294         68476         PRT100717           8171         44355         SAU800117         20233         56417         EC0100098         32294         68476         PRT100717           8171         44356         SAU800116         20234         56418         EC0100134   |              |       | 1   |       |       |              |        |          |              |
| 8164         44348         SAU800344         20226         56410         ECO100085         32287         68471         PRT100691           8165         44349         SAU801552         20227         56411         ECO100086         32288         68472         PRT100704           8166         44350         SAU801523         20228         56412         ECO100087         32289         68473         PRT100707           8167         44351         SAU800136         20230         56414         ECO100089         32291         68475         PRT100707           8169         44353         SAU801366         20230         56415         ECO100090         32292         68476         PRT100712           8170         44354         SAU801396         20232         56416         ECO100098         32294         68477         PRT100712           8171         44355         SAU801717         20233         56417         ECO100098         32294         68479         PRT100773           8172         44356         SAU801771         20235         56418         ECO100143         32296         68487         PRT100733           8172         44356         SAU801771         20235         56419         ECO100143   |              |       |   |       |       |              |        |          |              |
| 8165         44349         SAU802555         20227         56411         ECO100086         32288         68472         PRT100704           8166         44350         SAU801523         20228         56412         ECO100087         32289         68473         PRT100706           8167         44351         SAU800136         20230         56414         ECO100088         32291         68475         PRT100707           8168         44353         SAU80156         20230         56414         ECO100099         32291         68475         PRT100708           8169         44353         SAU102585         20231         56415         ECO100099         32292         68476         PRT100712           8170         44354         SAU801396         20232         56416         ECO100091         32293         68477         PRT100712           8171         44355         SAU800117         20233         56417         ECO100098         32294         68478         PRT100729           8172         44356         SAU80171         20235         56419         ECO100134         32295         68479         PRT100733           8173         44358         SAU802613         20236         56420         ECO100143 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>  |              |       |   |       |       |              |        |          |              |
| 8166         44350         SAU801523         20228         56412         ECO100087         32289         68473         PRT100706           8167         44351         SAU800434         20229         56413         ECO100088         32290         68474         PRT100707           8168         44352         SAU800156         20230         56414         ECO100099         32291         68475         PRT100708           8169         44353         SAU102585         20231         56415         ECO100090         32292         68476         PRT100712           8170         44354         SAU801396         20232         56416         ECO100091         32293         68477         PRT100712           8171         44355         SAU800117         20233         56417         ECO100098         32294         68478         PRT100729           8172         44356         SAU801171         20235         56419         ECO100134         32295         68479         PRT100733           8173         44357         SAU802613         20236         56420         ECO100143         32296         68480         PRT100735           8174         44359         SAU802689         20237         56421         ECO100159   |              |       |   |       |       |              |        |          |              |
| 8167         44351         SAU800434         20229         56413         ECO100088         32290         68474         PRT100707           8168         44352         SAU800156         20230         56414         ECO100089         32291         68475         PRT100708           8169         44353         SAU102585         20231         56415         ECO100090         32292         68476         PRT100712           8170         44354         SAU801396         20232         56416         ECO100098         32293         68477         PRT100712           8171         44355         SAU800117         20233         56417         ECO100098         32294         68478         PRT100729           8172         44356         SAU801771         20235         56419         ECO100143         32295         68479         PRT100733           8173         44357         SAU802613         20236         56420         ECO100149         32297         68481         PRT100737           8175         44359         SAU802689         20237         56421         ECO100159         32298         68482         PRT100741           8176         44360         SAU802418         20239         56422         ECO100162   | 4            |       | E E   |       |       |              |        |          |              |
| 8168         44352         SAU800156         20230         56414         ECO100089         32291         68475         PRT100708           8169         44353         SAU102585         20231         56415         ECO100090         32292         68476         PRT100712           8170         44354         SAU801396         20232         56416         ECO100091         32293         68477         PRT100717           8171         44355         SAU800116         20234         56417         ECO100134         32294         68478         PRT100729           8172         44356         SAU801771         20235         56419         ECO100143         32296         68480         PRT100733           8173         44357         SAU802613         20236         56420         ECO100149         32297         68481         PRT100737           8175         44359         SAU800489         20237         56421         ECO100159         32298         68482         PRT100741           8176         44360         SAU802613         20237         56421         ECO100162         32299         68483         PRT100741           8177         44361         SAU802133         20240         56422         ECO100166   |              |       |   |       |       |              |        |          |              |
| 8169         44353         SAU102585         20231         56415         ECO100090         32292         68476         PRT100712           8170         44354         SAU801396         20232         56416         ECO100091         32293         68477         PRT100717           8171         44355         SAU800117         20233         56417         ECO100098         32294         68478         PRT100729           8172         44356         SAU800171         20234         56418         ECO100134         32295         68479         PRT100733           8173         44357         SAU802613         20235         56419         ECO100143         32296         68480         PRT100735           8174         44358         SAU802613         20236         56420         ECO100149         32297         68481         PRT100737           8175         44359         SAU800489         20237         56421         ECO100159         32298         68482         PRT100741           8176         44360         SAU802689         20238         56422         ECO100162         32299         68483         PRT100743           8177         44361         SAU802133         20249         56424         ECO100172   |              |       | · ·   |       |       |              |        |          |              |
| 8170         44354         SAU801396         20232         56416         ECO100091         32293         68477         PRT100717           8171         44355         SAU800117         20233         56417         ECO100098         32294         68478         PRT100729           8172         44356         SAU800116         20234         56418         ECO100134         32295         68479         PRT100733           8173         44357         SAU801771         20235         56419         ECO100143         32296         68480         PRT100735           8174         44358         SAU802613         20236         56420         ECO100149         32297         68481         PRT100737           8175         44359         SAU800489         20237         56421         ECO100159         32298         68482         PRT100741           8176         44360         SAU802689         20238         56422         ECO100162         32299         68483         PRT100743           8177         44361         SAU802418         20239         56423         ECO100162         32300         68484         PRT100746           8178         44362         SAU801521         20241         56424         ECO100172   |              |       | l l   |       |       |              |        |          |              |
| 8171         44355         SAU800117         20233         56417         ECO100098         32294         68478         PRT100729           8172         44356         SAU800116         20234         56418         ECO100134         32295         68479         PRT100733           8173         44357         SAU801771         20235         56419         ECO100143         32296         68480         PRT100735           8174         44358         SAU802613         20236         56420         ECO100149         32297         68481         PRT100737           8175         44359         SAU802689         20237         56421         ECO100159         32298         68482         PRT100741           8176         44360         SAU802689         20238         56422         ECO100162         32299         68483         PRT100743           8177         44361         SAU802133         20240         56424         ECO100162         32300         68484         PRT100746           8178         44362         SAU801521         20241         56425         ECO100172         32301         68485         PRT100749           8180         44363         SAU801243         20244         56425         ECO100174   |              |       |   |       |       |              |        |          |              |
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| 8183       44367       SAU802360       20245       56429       ECO100188       32306       68490       PRT100781         8184       44368       SAU202256       20246       56430       ECO100251       32307       68491       PRT100789         8185       44369       SAU800320       20247       56431       ECO100252       32308       68492       PRT100790         8186       44370       SAU801687       20248       56432       ECO100260       32309       68493       PRT100791         8187       44371       SAU800138       20249       56433       ECO100266       32310       68494       PRT100792         8188       44372       SAU802137       20250       56434       ECO100267       32311       68495       PRT100794         8189       44373       SAU801297       20251       56435       ECO100288       32312       68496       PRT100799   |              |       | i   |       |       |              |        |          |              |
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| 8188 44372 SAU802137 20250 56434 ECO100267 32311 68495 PRT100794<br>8189 44373 SAU801297 20251 56435 ECO100288 32312 68496 PRT100799   |              |       |   |       |       |              |        |          |              |
| 8189 44373 SAU801297 20251 56435 ECO100288 32312 68496 PRT100799   |              |       |   |       |       |              |        |          |              |
| •  |              |       |   |       |       |              |        |          |              |
| 8190 44374 SAU801296   20252 56436 ECO100289   32313 68497 PRT100815   |              |       | B.  |       |       |              |        |          |              |
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| 8194            | 44378   | SAU800511    | 20256 | 56440   | ECO100334    | 32317 | 68501    | PRT100826    |
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| 8197            | 44381   | SAU800472    | 20259 | 56443   | ECO100384    | 32320 | 68504    | PRT100873    |
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| 8201            | 44385   | SAU800186    | 20263 | 56447   | ECO100397    | 32324 | 68508    | PRT100901    |
| 8202            | 44386   | SAU801450    | 20264 | 56448   | ECO100398    | 32325 | 68509    | PRT100903    |
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| 8210            | 44394   | SAU801697    | 20272 | 56456   | ECO100463    | 32333 | 68517    | PRT100958    |
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| 8214            | 44398   | SAU302737    | 20276 | 56460   | ECO100517    | 32337 | 68521    | PRT100975    |
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| 8217            | 44401   | SAU801529    | 20279 | 56463   | ECO100548    | 32340 | 68524    | PRT101005    |
| 8218            | 44402   | SAU802251    | 20280 | 56464   | ECO100571    | 32341 | 68525    | PRT101016    |
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| WU 02/07/183 |              |                        |       | _       |                        | PC 1/USC | 12/0910/ |              |
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| 8249         | 44433        | SAU800637              | 20311 | 56495   | ECO100817              | 32372    | 68556    | PRT101170    |
| 8250         | 44434        | SAU800335              | 20312 | 56496   | ECO100833              | 32373    | 68557    | PRT101174    |
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| 8253         | 44437        | SAU801819              | 20315 | 56499   | ECO100865              | 32376    | 68560    | PRT101181    |
| 8254         | 44438        | SAU801003              | 20316 | 56500   | ECO100879              | 32377    | 68561    | PRT101183    |
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| 8257         | 44441        | SAU802056              | 20319 | 56503   | ECO100911              | 32380    | 68564    | PRT101208    |
| 8258         | 44442        | SAU802288              | 20320 | 56504   | ECO100911<br>ECO100918 | 32381    | 68565    | PRT101210    |
|              | 44443        |                        |       |         | ECO100918<br>ECO100924 | 32382    | 68566    | PRT101210    |
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| 8260         | 44444        | SAU802444              | 20322 | 56506   | ECO100930              | 32383    | 68567    | PRT101236    |
| 8261         | 44445        | SAU800254              | 20323 | 56507   | ECO100942              | 32384    | 68568    | PRT101240    |
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| 8263         | 44447        | SAU802467              | 20325 | 56509   | ECO100985              | 32386    | 68570    | PRT101242    |
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| 8270         | 44454        | SAU801419              | 20332 | 56516   | ECO101029              | 32393    | 68577    | PRT101268    |
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| 8272         | 44456        | SAU801755              | 20334 | 56518   | ECO101064              | 32395    | 68579    | PRT101271    |
| 8273         | 44457        | SAU800561              | 20335 | 56519   | ECO101065              | 32396    | 68580    | PRT101271    |
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| 8276         | 44460        | SAU801259              | 20338 | 56522   | ECO101075              | 32399    | 68583    | PRT101288    |
| 8277         | 44461        | SAU802658              | 20339 | 56523   | ECO101080              | 32400    | 68584    | PRT101295    |
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| 8279         | 44463        | SAU802184              | 20341 | 56525   | ECO101087              | 32402    | 68586    | PRT101302    |
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| 8292<br>8293 | 44477        | SAU801801<br>SAU802346 | 20355 | 56539   | ECO101242<br>ECO101245 |          | 68600    | PRT101378    |
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| 8296         | 44480        | SAU800456              | 20358 | 56542   | ECO101291              | 32419    | 68603    | PRT101394    |
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| WO (         | 02/077183        |                        |                |                  |                        |                | PCT/US           | 2/09107                |
|--------------|------------------|------------------------|----------------|------------------|------------------------|----------------|------------------|------------------------|
| DNA<br>SeqID | Protein<br>SeqID | Gene LocusID           | DNA<br>SeqID   | Protein<br>SeqID | Gene LocusID           | DNA<br>SeqID   | Protein<br>SeqID | Gene LocusID           |
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| 8307         | 44491            | ABA100013              | 20369          | 56553            | ECO101491              | 32430          | 68614            | PRT101464              |
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| 8314         | 44498            | ABA100054              | 20376          | 56560            | ECO101607              | 32437          | 68621            | PRT101496              |
| 8315         | 44499            | ABA100056              | 20377          | 56561            | ECO101619              | 32438          | 68622            | PRT101499              |
| 8316         | 44500            | ABA100059              | 20378          | 56562            | ECO101632              | 32439          | 68623            | PRT101500              |
| 8317         | 44501            | ABA100062              | 20379          | 56563            | ECO101644              | 32440          | 68624            | PRT101501              |
| 8318         | 44502            | ABA100079              | 20380          | 56564            | ECO101650              | 32441<br>32442 | 68625<br>68626   | PRT101519<br>PRT101527 |
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| 8327         | 44511            | ABA100088              | 20389          | 56573            | ECO101708              | 32450          | 68634            | PRT101565              |
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| 8343         | 44527            | ABA100118              | 20405          | 56589            | ECO101988              | 32466          | 68650            | PRT101698              |
| 8344         | 44528            | ABA100121              | 20406          | 56590            | ECO102005              | 32467          | 68651            | PRT101699              |
| 8345         | 44529            | ABA100122              | 20407          | 56591            | ECO102009              | 32468          | 68652            | PRT101704              |
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| $\mathbf{WO}$ 0 | 2/077183         |              |              |                  |              |              | PCT/US0          | 02/09107     |
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| 8361         44545         ABA100164         20424         56607         EC0102124         32485         68669         PRT101794           8363         44546         ABA100166         20425         56609         EC0102127         32485         68669         PRT101796           8364         44548         ABA100169         20427         56611         EC0102128         32487         68671         PRT101807           8366         44549         ABA100169         20427         56611         EC0102143         32489         68673         PRT101807           8366         44550         ABA100184         20429         56612         EC0102143         32489         68673         PRT101807           8368         44551         ABA100187         20430         56614         EC0102167         32491         68675         PRT101841           8369         44553         ABA100197         20431         56616         EC0102168         32493         68676         PRT101849           8371         44554         ABA100200         20433         56616         EC0102188         32494         68678         PRT101879           8373         44556         ABA100221         20435         56618         EC0102236   |              |                  |              |              |                  |              |              |                  |              |
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| 8363         44548         ABA100166         20425         56609         ECO102127         32486         68670         PRT101796           8364         44548         ABA100167         20426         56610         ECO102124         32487         68671         PRT101807           8366         44559         ABA100183         20428         56612         ECO102143         32489         68673         PRT101807           8366         44551         ABA100187         20429         56613         ECO102143         32490         68673         PRT101816           8368         44552         ABA100187         20430         56614         ECO102167         32491         68675         PRT101841           8370         44553         ABA100197         20432         56616         ECO102168         32491         68676         PRT101849           8371         44555         ABA100220         20433         56617         ECO102168         32491         68678         PRT101849           8373         44556         ABA100224         20434         56618         ECO102236         32495         68680         PRT101879           8374         44558         ABA100225         20435         56621         ECO102242   |              |                  |              |              |                  |              |              |                  |              |
| 8364         44548         ABA100167         20426         56610         ECO102142         32487         68671         PRT101807           8365         44550         ABA100173         20428         56612         ECO102143         32488         68672         PRT101807           8366         44551         ABA100184         20429         56613         ECO102143         32490         68674         PRT101807           8368         44552         ABA100187         20430         56614         ECO102167         32491         68675         PRT101847           8370         44554         ABA100197         20432         56615         ECO102168         32493         68676         PRT101847           8371         44555         ABA100200         20433         56617         ECO102189         32494         68678         PRT101847           8373         44555         ABA100205         20434         56618         ECO102236         32495         68679         PRT101879           8373         44557         ABA100211         20435         56619         ECO102242         32495         68681         PRT101880           8375         44560         ABA100233         20438         56622         ECO102243   |              |                  |              |              |                  |              |              |                  |              |
| 8365         44549         ABA100169         20427         56611         ECO102143         32488         68672         PRT101816           8366         44550         ABA100184         20429         56613         ECO102148         32490         68674         PRT101816           8368         44551         ABA100187         20430         56614         ECO102148         32490         68675         PRT1018180           8369         44553         ABA100197         20431         56615         ECO102167         32491         68675         PRT101841           8370         44554         ABA100200         20431         56616         ECO102168         32493         68677         PRT101849           8371         44555         ABA100205         20434         56618         ECO102236         32495         68678         PRT101849           8373         44557         ABA100221         20435         56619         ECO1022242         32496         68680         PRT101879           8374         44558         ABA1002229         20437         56621         ECO1022242         32496         68681         PRT101881           8376         44560         ABA1002232         20437         56621         ECO1   |              |                  |              |              |                  |              |              |                  |              |
| 8366   44551   ABA100184   20429   56613   ECO102148   32490   68673   PRT101830   8367   44551   ABA100187   20430   56614   ECO102150   32491   68675   PRT101830   8368   44552   ABA100192   20431   56615   ECO102167   32492   68676   PRT101847   8370   44554   ABA100192   20432   56616   ECO102167   32492   68676   PRT101847   8371   44555   ABA10020   20433   56617   ECO102189   32494   68678   PRT101848   8372   44556   ABA100205   20434   56618   ECO102236   32495   68679   PRT101873   8373   44557   ABA100211   20435   56619   ECO102242   32496   68680   PRT101873   8374   44558   ABA100225   20436   56620   ECO102242   32496   68680   PRT101873   8375   44559   ABA100225   20437   56621   ECO102256   32498   68682   PRT101881   8376   44560   ABA100233   20438   56622   ECO102262   32499   68683   PRT101882   8377   44561   ABA100240   20439   56623   ECO102262   32499   68683   PRT101889   8378   44563   ABA100250   20440   56624   ECO102206   32499   68683   PRT101889   8379   44563   ABA100260   20441   56625   ECO102247   32500   68684   PRT101899   8380   44564   ABA100261   20442   56626   ECO102349   32500   68686   PRT101998   8381   44566   ABA100260   20441   56625   ECO102349   32504   68688   PRT101984   8381   44566   ABA100260   20444   56628   ECO102338   32503   68687   PRT101955   8382   44566   ABA100276   20445   56627   ECO102349   32504   68688   PRT101955   8383   44564   ABA100276   20445   56627   ECO102349   32504   68688   PRT101955   8383   44567   ABA100276   20445   56630   ECO102365   32506   68690   PRT101955   8384   44568   ABA100276   20445   56632   ECO102365   32506   68690   PRT101957   8387   44571   ABA100283   20449   56633   ECO102365   32506   68690   PRT101978   8388   44573   ABA100283   20445   56635   ECO102369   32510   68694   PRT101978   8389   44573   ABA100381   20457   56635   ECO102369   32515   68696   PRT101998   8399   44573   ABA100317   20456   56639   ECO102369   32515   68696   PRT102038   8390   44578   ABA100361   20455   56639   ECO102469    |              |                  |              |              |                  |              |              |                  |              |
| 8367         44551         ABA100187         20429         56613         ECO102148         32490         68674         PRT101830           8368         44552         ABA100197         20430         56614         ECO102167         32492         68676         PRT101841           8370         44554         ABA100197         20432         56615         ECO102168         32492         68677         PRT101849           8371         44555         ABA100205         20433         56617         ECO102168         32493         68678         PRT101879           8373         44556         ABA100221         20434         56618         ECO102236         32495         68679         PRT101873           8373         44557         ABA100221         20434         56619         ECO1022243         32496         68687         PRT101873           8373         44550         ABA100229         20433         56621         ECO1022266         32498         68681         PRT101880           8376         44560         ABA100240         20439         56622         ECO1022267         32500         68684         PRT101881           8379         44561         ABA100261         20442         56624         ECO102   |              |                  |              |              |                  |              | !            |                  |              |
| 8368         44552         ABA100187         20430         56614         ECO102167         32491         68675         PRT101841           8369         44553         ABA100192         20431         56615         ECO102168         32492         68676         PRT101849           8371         44554         ABA100200         20433         56617         ECO102189         32494         68678         PRT101847           8373         44555         ABA100201         20434         56618         ECO102236         32496         68679         PRT101873           8373         44557         ABA100211         20435         56619         ECO102242         32496         68680         PRT101870           8374         44558         ABA100225         20436         56620         ECO102243         32497         68681         PRT101881           8376         44560         ABA100233         20438         56622         ECO102262         32499         68683         PRT101881           8378         44560         ABA100224         20439         56623         ECO102262         32499         68687         PRT101881           8379         44563         ABA100226         20441         56625         ECO102361   |              |                  |              |              |                  |              | i e          |                  |              |
| 8369         44553         ABA100197         20431         56616         ECO102167         32492         68676         PRT101847           8370         44555         ABA100200         20432         56616         ECO102189         32494         68678         PRT101849           8372         44556         ABA100205         20434         56618         ECO102236         32495         68679         PRT101879           8373         44557         ABA100225         20436         56619         ECO1022243         32496         68680         PRT101879           8375         44559         ABA100229         20437         56621         ECO1022263         32496         68681         PRT101880           8375         44550         ABA100229         20437         56621         ECO1022263         32499         68681         PRT101880           8377         44561         ABA100240         20439         56622         ECO1022267         32500         68684         PRT101889           8378         44562         ABA100261         20441         56624         ECO1022361         32501         68687         PRT101990           8381         44565         ABA100261         20443         56625         ECO1   |              |                  |              |              |                  |              |              |                  |              |
| 8370 44554 ABA10020 20432 56616 ECO102189 32494 68677 PRT101866 8372 44555 ABA100205 20434 56618 ECO102236 32494 68678 PRT101873 8373 44557 ABA100211 20435 56619 ECO102242 32496 68680 PRT101873 8373 44557 ABA100225 20436 56620 ECO102243 32496 68680 PRT101880 8375 44559 ABA100225 20436 56620 ECO102243 32497 68681 PRT101880 8375 44559 ABA100225 20437 56621 ECO102262 32499 68681 PRT101881 8376 44560 ABA100233 20438 56622 ECO102262 32499 68683 PRT101881 8376 44561 ABA100240 20439 56623 ECO102267 32500 68684 PRT101899 8378 44562 ABA100252 20440 56624 ECO102266 32500 68684 PRT101899 8379 44563 ABA100260 20441 56625 ECO102361 32500 68685 PRT101901 8379 44563 ABA100265 20443 56626 ECO102396 32501 68685 PRT101901 83880 44564 ABA100265 20443 56626 ECO102349 32500 68688 PRT101954 8382 44566 ABA100265 20443 56626 ECO102349 32500 68688 PRT101954 8382 44566 ABA100265 20443 56627 ECO102349 32504 68688 PRT101954 8384 44568 ABA100265 20444 56628 ECO102362 32505 68689 PRT101954 8384 44568 ABA100269 20444 56628 ECO102362 32505 68689 PRT101955 8384 44568 ABA100279 20445 56629 ECO102367 32506 68690 PRT101956 8388 44567 ABA100279 20447 56631 ECO102367 32507 68691 PRT101956 8388 44567 ABA100279 20447 56631 ECO102367 32507 68691 PRT101956 8388 44570 ABA100229 20450 56634 ECO102365 32506 68699 PRT101956 8388 44570 ABA100238 20448 56632 ECO102330 32509 68693 PRT101957 8388 44573 ABA100208 20451 56634 ECO102469 32511 68694 PRT101978 8387 44571 ABA100304 20452 56636 ECO102488 32513 68697 PRT101978 8389 44577 ABA100316 20455 56639 ECO102469 32511 68699 PRT102038 8394 44578 ABA100316 20455 56639 ECO102460 32511 68699 PRT102038 8394 44578 ABA100317 20455 56634 ECO102509 32519 68703 PRT102038 8394 44578 ABA100317 20456 56640 ECO102509 32519 68703 PRT102038 8394 44578 ABA100317 20456 56640 ECO102509 32516 68709 PRT102038 8394 44578 ABA100317 20456 56640 ECO102509 32519 68703 PRT102038 8404 44588 ABA100361 20455 56636 ECO102509 32519 68703 PRT102038 8404 44588 ABA100367 20466 56644 ECO102509 32526 68709 PRT102038 8404 44588 ABA100367 20466 5665 |              |                  |              |              |                  |              |              |                  |              |
| 8371 44555 ABA100205 20434 56618 ECO102236 32495 68678 PRT101873 8373 44557 ABA100215 20434 56618 ECO102242 32496 68680 PRT101879 8374 44558 ABA100225 20436 56619 ECO102243 32497 68681 PRT101880 8375 44559 ABA100229 20437 56621 ECO1022243 32497 68681 PRT101880 8375 44559 ABA100229 20437 56621 ECO1022256 32498 68632 PRT101880 8375 44560 ABA100233 20438 56622 ECO102265 32499 68683 PRT101880 8377 44561 ABA100240 20439 56623 ECO1022287 32500 68684 PRT101882 8377 44561 ABA100252 20440 56624 ECO102269 32501 68685 PRT101990 8379 44563 ABA100261 20441 56625 ECO102313 32502 68686 PRT101929 8380 44564 ABA100261 20442 56626 ECO102313 32503 68687 PRT101944 8381 44565 ABA100265 20443 56627 ECO102338 32503 68687 PRT101944 8381 44566 ABA100265 20443 56628 ECO1023349 32504 68688 PRT101955 8383 44567 ABA100260 20444 56628 ECO102363 32506 68689 PRT101955 8384 44568 ABA100260 20444 56628 ECO102365 32506 68699 PRT101956 8384 44568 ABA100260 20444 56628 ECO102365 32506 68699 PRT101956 8384 44568 ABA100270 20445 56629 ECO102365 32506 68699 PRT101956 8384 44569 ABA100270 20445 56630 ECO102367 32507 68691 PRT101957 8385 44569 ABA100270 20448 56631 ECO102379 32508 68692 PRT101963 8388 44573 ABA100288 20449 56631 ECO102379 32508 68692 PRT101963 8388 44573 ABA100288 20449 56633 ECO102349 32511 68695 PRT101971 8387 44571 ABA100288 20451 56635 ECO102449 32512 68696 PRT101978 8388 44573 ABA100298 20451 56634 ECO102419 32511 68695 PRT101998 8399 44574 ABA100304 20452 56636 ECO102468 32515 68699 PRT102038 8391 44575 ABA100310 20454 56639 ECO102468 32515 68699 PRT102038 8394 44578 ABA100310 20454 56639 ECO102469 32512 68696 PRT102038 8394 44578 ABA100316 20454 56638 ECO102458 32515 68699 PRT102038 8394 44578 ABA100316 20455 56639 ECO102509 32518 6870 PRT102038 8394 44580 ABA100362 20450 56644 ECO102517 32521 68706 PRT102034 8404 44584 ABA100364 20456 56646 ECO102509 32518 6870 PRT102038 8404 44588 ABA100364 20466 56648 ECO102519 32525 68706 PRT102073 8400 44584 ABA100367 20466 56648 ECO102519 32525 68706 PRT102078 8404 44588 ABA100367 20466 56 |              |                  |              |              |                  |              |              |                  |              |
| 8372 44556 ABA100211 20435 56619 ECO102242 32496 68679 PRT101879 8374 44557 ABA100221 20435 56619 ECO102242 32496 68680 PRT101879 8374 44558 ABA100225 20436 56620 ECO102246 32498 68681 PRT101880 8375 44559 ABA100233 20438 56622 ECO102262 32499 68683 PRT101881 8376 44560 ABA100233 20438 56622 ECO102262 32499 68683 PRT101881 8377 44561 ABA100240 20439 56623 ECO102262 32499 68683 PRT101881 8378 44562 ABA100252 20440 56624 ECO102296 32501 68684 PRT101990 8379 44563 ABA100260 20441 56625 ECO102311 32502 68686 PRT101990 8380 44564 ABA100261 20442 56626 ECO102331 32502 68686 PRT101992 8380 44564 ABA100265 20443 56627 ECO102349 32504 68688 PRT101954 8381 44565 ABA100269 20444 56628 ECO102349 32504 68689 PRT101954 8383 44566 ABA100269 20444 56628 ECO102362 32505 68689 PRT101955 8383 44568 ABA100276 20446 56630 ECO102367 32507 68691 PRT101955 8384 44569 ABA100279 20447 56631 ECO102367 32507 68691 PRT101955 8385 44569 ABA100286 20449 56632 ECO102367 32507 68691 PRT101957 8387 44571 ABA100286 20449 56631 ECO102367 32507 68691 PRT101953 8388 44572 ABA100290 20450 56634 ECO102367 32506 68690 PRT101963 8388 44573 ABA100290 20450 56634 ECO102367 32510 68694 PRT101971 8387 44571 ABA100286 20449 56633 ECO102349 32510 68694 PRT101978 8388 44573 ABA100304 20452 56636 ECO102449 32512 68696 PRT101998 8399 44574 ABA100304 20452 56636 ECO102449 32512 68696 PRT101998 8399 44574 ABA100304 20452 56636 ECO102489 32512 68696 PRT101998 8391 44575 ABA100308 20453 56637 ECO102465 32516 68699 PRT102036 8392 44576 ABA100310 20454 56638 ECO102449 32512 68696 PRT102036 8393 44577 ABA100316 20455 56639 ECO1022480 32516 68700 PRT102031 8394 44578 ABA100310 20454 56638 ECO102548 32511 68699 PRT102036 8393 44579 ABA100310 20454 56638 ECO102548 32517 68699 PRT102036 8394 44588 ABA100310 20455 56639 ECO102569 32519 68703 PRT102036 8395 44580 ABA100377 66648 ECO102507 32526 68706 PRT102073 8400 44584 ABA8 ABA100367 20466 56648 ECO102559 32526 6870 PRT102075 8401 44588 ABA100367 20466 56649 ECO102560 32527 68711 PRT102088 8402 44580 ABA100377 20466 56650 |              |                  |              |              |                  |              |              |                  |              |
| 8373         44557         ABA100211         20435         56619         ECO102242         32496         68680         PRT101879           8374         44558         ABA100225         20436         56620         ECO102255         32498         68681         PRT101880           8375         44560         ABA100233         20438         56622         ECO102262         32499         68683         PRT101882           8377         44561         ABA100240         20439         56623         ECO102296         32500         68684         PRT101889           8378         44563         ABA100260         20441         56625         ECO102311         32502         68686         PRT101929           8380         44564         ABA100261         20442         56626         ECO102349         32501         68687         PRT1019494           8381         44566         ABA100269         20444         56628         ECO102349         32504         68688         PRT101955           8383         44567         ABA100270         20445         56629         ECO102367         32506         68690         PRT101955           8385         44569         ABA100279         20447         56631         ECO10236   |              |                  |              |              |                  |              |              |                  |              |
| 8374         44558         ABA100225         20436         56620         EC0102243         32497         68681         PRT101880           8375         44559         ABA100229         20437         56621         EC0102262         32498         68682         PRT101881           8376         44561         ABA100232         20439         56623         EC0102267         32500         68684         PRT101889           8378         44561         ABA100252         20440         56624         EC0102296         32501         68685         PRT1019901           8379         44563         ABA100260         20441         56625         EC0102311         32502         68686         PRT101949           8380         44564         ABA100261         20442         56626         EC0102338         32503         68687         PRT101944           8381         44565         ABA100270         20443         56627         EC0102365         32506         68689         PRT101955           8383         44566         ABA100270         20445         56629         EC0102365         32506         68699         PRT101955           8384         44568         ABA100276         20447         56631         EC010236   |              |                  |              |              |                  |              |              |                  |              |
| 8375         44559         ABA100229         20437         56621         EC0102256         32498         68682         PRT101881           8376         44560         ABA100230         20438         56622         EC0102287         32590         68683         PRT101882           8377         44561         ABA100252         20440         56624         EC0102286         32501         68685         PRT101901           8378         44562         ABA100260         20441         56625         EC0102311         32502         68686         PRT101991           8378         44563         ABA100265         20441         56625         EC0102313         32502         68686         PRT1019929           8380         44565         ABA100265         20443         56627         EC0102349         32504         68688         PRT101954           8382         44566         ABA100270         20444         56628         EC0102365         32506         68690         PRT101955           8384         44568         ABA100270         20446         56631         EC0102367         32507         68691         PRT101957           8385         44569         ABA100283         20447         56631         EC010237   |              |                  |              |              |                  |              |              |                  |              |
| 8376         44560         ABA100233         20438         56622         ECO102262         32499         68683         PRT101882           8377         44561         ABA100240         20439         56623         ECO102287         32500         68684         PRT101899           8378         44563         ABA100260         20441         56625         ECO102311         32500         68686         PRT101929           8380         44564         ABA100261         20442         56626         ECO102338         32503         68687         PRT101944           8381         44565         ABA100265         20443         56627         ECO102362         32504         68688         PRT101944           8382         44566         ABA100270         20445         56629         ECO102365         32506         68689         PRT101956           8384         44567         ABA100276         20445         56629         ECO102367         32507         68691         PRT101956           8385         44570         ABA100279         20447         56630         ECO102367         32507         68691         PRT101957           8385         44571         ABA100288         20449         56633         ECO102380   |              |                  |              |              |                  |              |              |                  |              |
| 8377         44561         ABA100240         20439         56623         ECO102287         32500         68684         PRT101899           8378         44562         ABA100252         20440         56624         ECO102296         32501         68685         PRT101991           8379         44563         ABA100261         20441         56625         ECO102338         32503         68687         PRT101994           8380         44565         ABA100265         20443         56627         ECO1023349         32504         68688         PRT101954           8381         44566         ABA100270         20444         56628         ECO102336         32505         68689         PRT101955           8383         44567         ABA100270         20445         56628         ECO102365         32507         68691         PRT101957           8385         44569         ABA100283         20448         56631         ECO102367         32507         68691         PRT101957           8387         44570         ABA100283         20448         56631         ECO102367         32508         68699         PRT101971           8388         44572         ABA100284         20449         56631         ECO10239   |              |                  |              |              |                  |              |              |                  |              |
| 8378         44562         ABA100252         20440         56624         ECO102296         32501         68685         PRT101901           8379         44563         ABA100260         20441         56625         ECO102311         32502         68686         PRT101929           8380         44564         ABA100261         20442         56626         ECO102338         32503         68687         PRT101944           8381         44565         ABA100269         20444         56627         ECO102349         32504         68688         PRT101954           8382         44566         ABA100270         20445         56629         ECO102365         32505         68689         PRT101955           8384         44566         ABA100276         20446         56630         ECO102367         32507         68691         PRT101957           8385         44569         ABA100280         20449         56631         ECO102379         32508         68692         PRT101978           8386         44570         ABA100280         20449         56633         ECO102380         32510         68694         PRT101978           8388         44573         ABA100290         20450         56634         ECO102419   |              |                  |              |              |                  |              |              |                  |              |
| 8379         44563         ABA100260         20441         56625         ECO102311         32502         68686         PRT101929           8380         44564         ABA100261         20442         56626         ECO1023349         32503         68687         PRT101944           8381         44565         ABA100269         20444         56628         ECO102362         32505         68689         PRT101955           8382         44567         ABA100270         20445         56629         ECO102365         32506         68690         PRT101956           8384         44568         ABA100279         20445         56630         ECO102367         32506         68690         PRT101956           8385         44570         ABA100279         20447         56631         ECO102379         32508         68692         PRT101973           8385         44571         ABA100283         20448         56632         ECO102380         32509         68693         PRT101978           8386         44571         ABA100292         20450         56634         ECO102499         32510         68694         PRT101978           8387         44571         ABA100304         20452         56636         ECO10249   |              |                  |              |              |                  |              |              |                  |              |
| 8380         44564         ABA100261         20442         56626         ECO102338         32503         68687         PRT101944           8381         44565         ABA100265         20443         56627         ECO102349         32504         68688         PRT101955           8383         44566         ABA100270         20445         56629         ECO102362         32505         68690         PRT101955           8384         44568         ABA100276         20445         56629         ECO102367         32506         68690         PRT101957           8385         44569         ABA100279         20447         56631         ECO102379         32508         68692         PRT101963           8387         44570         ABA100286         20449         56631         ECO102380         32509         68693         PRT101971           8388         44572         ABA100290         20450         56634         ECO102392         32511         68695         PRT101996           8389         44573         ABA100304         20452         56636         ECO102449         32512         68696         PRT102018           8390         44574         ABA100310         20453         56637         ECO102460   |              |                  |              |              |                  |              |              |                  |              |
| 8381         44565         ABA100265         20443         56627         ECO102349         32504         68688         PRT101954           8382         44566         ABA100270         20445         56628         ECO102365         32506         68690         PRT101956           8384         44567         ABA100276         20445         56629         ECO102365         32506         68690         PRT101957           8384         44568         ABA100279         20447         56631         ECO102379         32507         68691         PRT101953           8385         44569         ABA100283         20448         56632         ECO102379         32508         68692         PRT101971           8387         44571         ABA100280         20449         56631         ECO102392         32510         68694         PRT101978           8388         44573         ABA100290         20450         56634         ECO102449         32511         68695         PRT101998           8390         44574         ABA100304         20452         56636         ECO102449         32512         68696         PRT102018           8391         44575         ABA100310         20452         56638         ECO102460   |              |                  |              |              |                  |              |              |                  |              |
| 8382         44566         ABA100269         20444         56628         ECO102362         32505         68689         PRT101955           8383         44567         ABA100276         20445         56629         ECO102365         32506         68690         PRT101956           8384         44568         ABA100279         20447         56631         ECO102379         32508         68691         PRT101957           8385         44570         ABA100286         20449         56631         ECO102380         32509         68693         PRT101971           8387         44571         ABA100290         20450         56634         ECO102392         32510         68694         PRT101978           8388         44572         ABA100290         20450         56634         ECO102449         32511         68695         PRT101998           8390         44574         ABA100304         20452         56635         ECO102449         32511         68696         PRT101998           8391         44576         ABA100310         20452         56636         ECO102465         32515         68699         PRT102018           8392         44576         ABA100310         20455         56639         ECO102465   |              |                  |              |              |                  |              |              |                  |              |
| 8383         44567         ABA100270         20445         56629         ECO102365         32506         68690         PRT101956           8384         44568         ABA100276         20446         56630         ECO102367         32507         68691         PRT101957           8385         44569         ABA100283         20448         56631         ECO102380         32509         68692         PRT101963           8386         44570         ABA100286         20449         56631         ECO102392         32510         68694         PRT101978           8388         44572         ABA100290         20450         56634         ECO102419         32511         68695         PRT101996           8389         44573         ABA100308         20451         56635         ECO102449         32512         68696         PRT101998           8391         44575         ABA100308         20452         56636         ECO102449         32514         68698         PRT102018           8392         44576         ABA100310         20454         56638         ECO102460         32514         68698         PRT102028           8393         44577         ABA100316         20455         56639         ECO102460   |              |                  |              |              |                  |              |              |                  |              |
| 8384         44568         ABA100276         20446         56630         ECO102367         32507         68691         PRT101957           8385         44569         ABA100279         20447         56631         ECO102379         32508         68692         PRT101963           8386         44570         ABA100286         20449         56632         ECO102380         32509         68693         PRT101971           8387         44571         ABA100290         20450         56634         ECO1023419         32511         68695         PRT101978           8389         44573         ABA100298         20451         56635         ECO102449         32512         68696         PRT101998           8390         44574         ABA100304         20452         56636         ECO102449         32512         68696         PRT102018           8391         44575         ABA100310         20453         56637         ECO102460         32514         68698         PRT102026           8392         44576         ABA100316         20455         56638         ECO102460         32515         68699         PRT102026           8394         44579         ABA100318         20457         56641         ECO10248   |              |                  |              |              |                  |              |              |                  |              |
| 8385         44569         ABA100279         20447         56631         ECO102379         32508         68692         PRT101963           8386         44570         ABA100283         20448         56632         ECO102380         32509         68693         PRT101971           8387         44571         ABA100286         20449         56633         ECO102392         32510         68694         PRT101978           8388         44572         ABA100298         20451         56635         ECO102419         32512         68696         PRT101996           8389         44573         ABA100304         20452         56636         ECO102449         32512         68696         PRT101996           8391         44575         ABA100308         20453         56637         ECO102460         32514         68698         PRT102018           8392         44576         ABA100310         20454         56638         ECO102465         32515         68699         PRT102026           8393         44577         ABA100317         20456         56640         ECO102480         32516         68700         PRT102031           8394         44579         ABA100318         20457         56641         ECO102502   |              |                  |              |              |                  |              |              |                  |              |
| 8386         44570         ABA100283         20448         56632         ECO102380         32509         68693         PRT101971           8387         44571         ABA100286         20449         56633         ECO102392         32510         68694         PRT101978           8388         44572         ABA100298         20451         56634         ECO102419         32511         68695         PRT101998           8390         44574         ABA100304         20452         56635         ECO102449         32512         68696         PRT101998           8391         44575         ABA100308         20453         56637         ECO102460         32514         68698         PRT102018           8392         44576         ABA100310         20454         56638         ECO102465         32515         68699         PRT102028           8393         44577         ABA100316         20455         56639         ECO102480         32516         68700         PRT102031           8395         44579         ABA100318         20457         56641         ECO102502         32518         68702         PRT102059           8396         44580         ABA100324         20458         56642         ECO102509   |              |                  |              |              |                  |              |              |                  |              |
| 8387         44571         ABA100286         20449         56633         ECO102392         32510         68694         PRT101978           8388         44572         ABA100290         20450         56634         ECO102419         32511         68695         PRT101996           8389         44573         ABA100298         20451         56635         ECO102449         32512         68696         PRT102018           8390         44574         ABA100308         20453         56637         ECO102460         32514         68698         PRT102026           8392         44576         ABA100310         20454         56638         ECO102465         32515         68699         PRT102028           8392         44576         ABA100316         20455         56638         ECO102465         32515         68699         PRT102028           8392         44576         ABA100316         20455         56638         ECO102480         32516         68700         PRT102028           8392         44579         ABA100318         20457         56641         ECO102482         32517         68701         PRT102031           8395         44580         ABA100324         20458         56642         ECO102502   |              |                  |              |              |                  |              |              |                  |              |
| 8388         44572         ABA100290         20450         56634         ECO102419         32511         68695         PRT101996           8389         44573         ABA100298         20451         56635         ECO102449         32512         68696         PRT101998           8390         44574         ABA100304         20452         56636         ECO102458         32513         68697         PRT102018           8391         44575         ABA100310         20454         56637         ECO102465         32514         68698         PRT102026           8392         44576         ABA100316         20455         56639         ECO102480         32516         68699         PRT102028           8392         44577         ABA100316         20455         56639         ECO102480         32516         68700         PRT102031           8394         44578         ABA100318         20457         56641         ECO102482         32517         68701         PRT102059           8396         44580         ABA100324         20458         56642         ECO102502         32518         68702         PRT102059           8397         44581         ABA100331         20460         56643         ECO102514   |              |                  |              |              |                  |              |              |                  |              |
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| 8396       44580       ABA100324       20458       56642       ECO102509       32519       68703       PRT102061         8397       44581       ABA100328       20459       56643       ECO102514       32520       68704       PRT102068         8398       44582       ABA100331       20460       56644       ECO102517       32521       68705       PRT102070         8399       44583       ABA100352       20461       56645       ECO102519       32522       68706       PRT102073         8400       44584       ABA100361       20462       56646       ECO102539       32523       68707       PRT102075         8401       44585       ABA100363       20463       56647       ECO102558       32524       68708       PRT102078         8402       44586       ABA100364       20464       56648       ECO102567       32525       68709       PRT102085         8403       44587       ABA100365       20465       56649       ECO102590       32526       68710       PRT102089         8404       44588       ABA100372       20467       56651       ECO102606       32527       68711       PRT102104         8406       44590       ABA  |              |                  |              |              |                  |              |              |                  |              |
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| DNIA | Drotoin   | Gana LogusID | DNIA | Protein | Gene LocusID | DNA | Protein        | Gene Locu |  |

|              | D 4.1.  | отть l       | TONIA | Duntain | Come I constD | DNA   | Duntain       |              |
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| 8551         | 44735            | ABA101037              | 20613          | 56797            | ECO104087              | 32674          | 68858            | PRT102899              |
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|              |                  |                        |                | 226              |                        |                |                  |                        |

| wo (         | 02/077183      |                        |                |                |                        |                | PCT/US         | 02/09107               |
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| DNA          | Protein        | Gene LocusID           | DNA            | Protein        | Gene LocusID           | DNA            | Protein        | Gene LocusID           |
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| WO 02/077183  | PCT/US02/09107 |

| DNA  |   | WU    | 12/0 / / 183 |               |       |         |              |       | PC1/USC | 12/0910/   |
|--|---|-------|--------------|---------------|-------|---------|--------------|-------|---------|--|
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| 8631   |   | SeqID | SeqID        |               | SeqID | SeqID   |              | SeqID | SeqID   |  |
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| 8642         44826         ABA101792         20704         56889         EFA200208         32765         68949         PRT103978           8644         44828         ABA101808         20705         56889         EFA200214         32766         68950         PRT103988           8644         44828         ABA101808         20707         56891         EFA200222         32767         68951         PRT103978           8646         44830         ABA101831         20709         56891         EFA2002235         32769         68953         PRT104002           8647         44831         ABA101842         20710         56894         EFA200235         32770         68954         PRT104009           8649         44833         ABA101842         20710         56895         EFA200235         32770         68956         PRT104077           8650         44834         ABA101867         20713         56897         EFA200243         32774         68956         PRT10407           8652         44836         ABA101879         20714         56896         EFA200243         32775         68959         PRT104094           8653         44837         ABA101889         20716         56890         EFA200253 |   | 8640  | 44824        | ABA101766     | 20702 | 56886   | EFA200201    | 32763 | 68947   | PRT103939  |
| 8642         44826         ABA101792         20704         56889         EFA200208         32765         68949         PRT103978           8644         44828         ABA101808         20705         56889         EFA200214         32766         68950         PRT103988           8644         44828         ABA101808         20707         56891         EFA200222         32767         68951         PRT103978           8646         44830         ABA101831         20709         56891         EFA2002235         32769         68953         PRT104002           8647         44831         ABA101842         20710         56894         EFA200235         32770         68954         PRT104009           8649         44833         ABA101842         20710         56895         EFA200235         32770         68956         PRT104077           8650         44834         ABA101867         20713         56897         EFA200243         32774         68956         PRT10407           8652         44836         ABA101879         20714         56896         EFA200243         32775         68959         PRT104094           8653         44837         ABA101889         20716         56890         EFA200253 |   | 8641  | 44825        | ABA101768     | 20703 | 56887   | EFA200202    | 32764 | 68948   | PRT103954  |
| 8643         44827         ABA101795         20705         56880         EFA200214         32766         68951         PRT103983           8644         44828         ABA101804         20706         56890         EFA200222         32768         68951         PRT103989           8645         44829         ABA101828         20708         56891         EFA200232         32768         68952         PRT104001           8647         44831         ABA101828         20709         56893         EFA200232         32770         68954         PRT104009           8648         44832         ABA101842         20710         56894         EFA200235         32771         68955         PRT104009           8648         44833         ABA101843         20711         56895         EFA200241         32772         68956         PRT104091           8651         44835         ABA101867         20713         56896         EFA200243         32774         68958         PRT104091           8652         44836         ABA101872         20714         56898         EFA200243         32776         68956         PRT104091           8653         44843         ABA101887         20716         56908         EFA200256 |   |       | 44826        | ABA101792     | 20704 | 56888   | EFA200208    | 32765 | 68949   | PRT103978  |
| 8644         44828         ABA101804         20706         56891         EFA200222         32767         68951         PRT103989           8645         44829         ABA101808         20707         56891         EFA200232         32769         68955         PRT104001           8646         44831         ABA101828         20708         56892         EFA200235         32770         68955         PRT104002           8648         44831         ABA101842         20710         56894         EFA200235         32771         68955         PRT104013           8649         44833         ABA101842         20711         56896         EFA200241         32772         68955         PRT104077           8650         44834         ABA101872         20713         56896         EFA200242         32773         68958         PRT104091           8652         44836         ABA101872         20714         56898         EFA200249         32775         68958         PRT104091           8653         44847         ABA101889         20716         56890         EFA200252         32776         68958         PRT104194           8654         44840         ABA101889         20718         56901         EFA200263 |   |       |              |               |       |         |              |       |         | and the second s |
| 8645         44829         ABA101828         20707         56891         EFA200225         32768         68952         PRT104001           8646         44830         ABA101821         20708         56892         EFA200235         32770         68954         PRT104009           8647         44831         ABA101842         20710         56894         EFA200236         32771         68955         PRT104013           8649         44833         ABA101843         20711         56896         EFA200241         32772         68956         PRT104077           8650         44834         ABA101845         20712         56896         EFA200242         32771         68957         PRT104077           8651         44835         ABA101867         20713         56897         EFA200243         32774         68958         PRT104094           8653         44836         ABA101872         20716         56990         EFA200225         32776         68959         PRT104094           8653         44837         ABA101887         20716         56900         EFA200225         32776         68969         PRT104101           8654         44839         ABA101887         20716         56900         EFA200263 |   |       |              |               |       |         |              |       |         |  |
| 8646         44830         ABA101828         20708         56892         EFA200232         32769         68953         PRT104002           8647         44831         ABA101842         20710         56894         EFA200235         32771         68955         PRT104013           8649         44833         ABA101843         20711         56895         EFA200241         32772         68956         PRT104078           8650         44834         ABA101855         20712         56896         EFA200242         32773         68957         PRT104089           8651         44835         ABA101872         20714         56896         EFA200243         32775         68959         PRT104091           8652         44836         ABA101879         20715         56898         EFA200249         32775         68959         PRT104094           8653         44837         ABA101879         20715         56890         EFA200252         32776         68960         PRT104103           8654         44838         ABA101889         20717         56901         EFA200259         32778         68962         PRT104154           8655         44840         ABA101891         20718         56902         EFA200263 |   |       |              | i i           |       |         |              |       |         |  |
| 8647         44831         ABA101842         20709         56893         EFA200236         32770         68954         PRT104003           8648         44832         ABA101842         20710         56894         EFA200241         32771         68955         PRT104007           8650         44833         ABA101855         20712         56896         EFA200241         32773         68957         PRT104091           8651         44835         ABA101872         20714         56896         EFA200243         32773         68957         PRT104091           8652         44836         ABA101872         20715         56896         EFA200243         32776         68959         PRT104091           8653         44837         ABA101879         20715         56899         EFA200252         32776         68960         PRT104109           8654         44838         ABA101887         20715         56900         EFA200256         32777         68961         PRT104136           8655         448439         ABA101887         20713         56900         EFA200253         32779         68963         PRT104174           8657         44841         ABA101891         20718         56902         EFA20026 |   |       |              |               |       |         |              |       |         |  |
| 8648         44832         ABA101842         20710         56894         EFA200236         32771         68955         PRT104017           8650         44833         ABA101855         20712         56895         EFA200242         32773         68957         PRT104087           8651         44835         ABA101867         20713         56897         EFA200243         32774         68958         PRT104091           8652         44836         ABA101872         20714         56898         EFA200249         32775         68959         PRT104091           8654         44838         ABA101887         20716         56900         EFA200256         32777         68961         PRT104136           8655         44839         ABA101889         20717         56901         EFA200256         32777         68962         PRT104136           8655         44834         ABA101891         20719         56901         EFA200263         32778         68962         PRT104154           8657         44841         ABA101891         20719         56903         EFA200263         32781         68963         PRT104175           8659         44834         ABA101939         20722         56906         EFA200268 |   |       |              |               |       |         |              |       |         |  |
| 8649         44833         ABA101843         20711         56895         EFA200241         32772         68956         PRT104077           8650         44834         ABA101872         20712         56896         EFA200243         32774         68958         PRT104089           8651         44836         ABA101872         20714         56898         EFA200249         32775         68959         PRT104094           8653         44837         ABA101879         20715         56899         EFA200252         32776         68960         PRT104101           8655         44839         ABA101889         20717         56901         EFA200259         32778         68961         PRT104154           8656         44840         ABA101891         20718         56902         EFA200263         32778         68962         PRT104171           8657         44841         ABA101891         20719         56902         EFA200263         32778         68962         PRT104171           8657         44841         ABA101891         20719         56903         EFA200263         32780         68964         PRT104174           8658         44843         ABA101931         20721         56905         EFA200263 |   |       |              |               |       |         |              |       |         |  |
| 8650         44834         ABA101855         20712         56896         EFA200242         32773         68957         PRT104089           8651         44835         ABA101867         20714         56898         EFA200249         32775         68958         PRT104094           8653         44837         ABA101879         20715         56899         EFA200252         32776         68960         PRT104101           8654         44838         ABA101889         20717         56900         EFA200259         32778         68961         PRT104161           8656         44840         ABA101889         20717         56901         EFA200259         32778         68962         PRT104174           8656         44841         ABA101891         20718         56902         EFA200263         32780         68964         PRT104171           8657         44841         ABA101897         20720         56904         EFA200263         32780         68964         PRT104171           8658         44842         ABA101933         20721         56905         EFA200270         32782         68966         PRT104174           8659         448434         ABA101933         20722         56906         EFA20027 |   |       |              |               |       |         |              |       |         |  |
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| 8652         44836         ABA101872         20714         56898         EFA200249         32775         68959         PRT104094           8653         44837         ABA101887         20716         56899         EFA200252         32776         68960         PRT104101           8654         44838         ABA101887         20716         56900         EFA200259         32778         68961         PRT104136           8655         44840         ABA101891         20718         56902         EFA200263         32779         68963         PRT104171           8657         44841         ABA101897         20720         56904         EFA200268         32781         68965         PRT104175           8658         44842         ABA101937         20721         56905         EFA200268         32781         68966         PRT104175           8661         44844         ABA101939         20722         56906         EFA200270         32782         68966         PRT104187           8662         44844         ABA101954         20724         56908         EFA200313         32784         68966         PRT104202           8661         44847         ABA101954         20724         56908         EFA200313 |   |       |              |               |       |         |              |       |         |  |
| 8653         44837         ABA101879         20715         56899         EFA200252         32776         68960         PRT104101           8654         44838         ABA101887         20716         56900         EFA200256         32777         68961         PRT104154           8656         44840         ABA101891         20718         56902         EFA200263         32779         68962         PRT104171           8657         44841         ABA101894         20719         56903         EFA200265         32780         68964         PRT104171           8658         44842         ABA101897         20720         56904         EFA200268         32781         68965         PRT104175           8659         44843         ABA101933         20721         56905         EFA200270         32782         68966         PRT104187           8660         44844         ABA101939         20722         56906         EFA200270         32782         68966         PRT104187           8661         44845         ABA101954         20724         56908         EFA200313         32785         68969         PRT104233           8663         44847         ABA101956         20725         56909         EFA200318 |   |       |              |               |       |         |              |       |         |  |
| 8654         44838         ABA101887         20716         56900         EFA200256         32777         68961         PRT104136           8655         44839         ABA101889         20717         56901         EFA200259         32778         68962         PRT104154           8656         44840         ABA101894         20719         56903         EFA200265         32770         68963         PRT104174           8657         44841         ABA101897         20720         56904         EFA200268         32781         68965         PRT104175           8658         44842         ABA101939         20721         56904         EFA200268         32781         68965         PRT104175           8659         44843         ABA101939         20722         56906         EFA200289         32783         68967         PRT104202           8661         44845         ABA101954         20724         56908         EFA200313         32785         68969         PRT104207           8662         44846         ABA101955         20725         56909         EFA200318         32786         68970         PRT104264           8665         44849         ABA101955         20726         56910         EFA200335 |   |       |              |               |       |         |              |       |         |  |
| 8655         44839         ABA101889         20717         56901         EFA200259         32778         68962         PRT104154           8656         44840         ABA101891         20718         56902         EFA200265         32779         68963         PRT104171           8657         44841         ABA101897         20720         56904         EFA200265         32780         68964         PRT104174           8659         44843         ABA101933         20721         56905         EFA200270         32782         68966         PRT104187           8660         44844         ABA101939         20722         56906         EFA200289         32783         68967         PRT104187           8661         44845         ABA101954         20723         56906         EFA200330         32784         68968         PRT104207           8662         44846         ABA101956         20725         56909         EFA200313         32786         68969         PRT104207           8663         44847         ABA101958         20726         56910         EFA200318         32786         68970         PRT104263           8664         44848         ABA101961         20727         56911         EFA200335 |   |       |              |               |       |         |              |       |         |  |
| 8656         44840         ABA101891         20718         56902         EFA200263         32779         68963         PRT104171           8657         44841         ABA101894         20719         56903         EFA200266         32780         68964         PRT104174           8658         44842         ABA101897         20720         56904         EFA200268         32781         68965         PRT104175           8660         44844         ABA101939         20722         56906         EFA200289         32783         68967         PRT104202           8661         44845         ABA101994         20723         56907         EFA200313         32785         68968         PRT104207           8662         44846         ABA101956         20725         56909         EFA200313         32786         68970         PRT104233           8664         44848         ABA101958         20726         56910         EFA200318         32786         68971         PRT104264           8665         44849         ABA101985         20728         56912         EFA2003328         32787         68971         PRT104291           8667         44851         ABA102113         20730         56912         EFA20033 |   |       |              |               |       |         |              |       |         |  |
| 8657         44841         ABA101894         20719         56903         EFA200265         32780         68964         PRT104174           8658         44842         ABA101897         20720         56904         EFA200268         32781         68965         PRT104175           8659         44843         ABA101939         20721         56905         EFA200270         32782         68966         PRT104175           8660         44844         ABA101939         20722         56906         EFA200283         32784         68968         PRT104202           8661         44845         ABA101954         20724         56908         EFA200313         32785         68968         PRT104207           8662         44846         ABA101956         20725         56909         EFA200313         32785         68969         PRT104263           8663         44847         ABA101956         20725         56910         EFA200318         32786         68970         PRT104263           8665         44849         ABA101985         20725         56910         EFA200328         32787         68971         PRT104263           8666         44850         ABA101985         20728         56912         EFA200335 |   |       |              |               |       |         |              |       |         |  |
| 8658         44842         ABA101897         20720         56904         EFA200268         32781         68965         PRT104175           8659         44843         ABA101939         20721         56905         EFA200289         32782         68966         PRT104187           8660         44844         ABA101939         20722         56906         EFA200289         32783         68967         PRT104202           8661         44845         ABA101949         20723         56907         EFA200313         32785         68968         PRT104207           8662         44846         ABA101954         20724         56908         EFA200313         32785         68969         PRT104233           8663         44847         ABA101958         20725         56909         EFA200318         32786         68970         PRT104263           8665         44848         ABA101985         20727         56911         EFA200328         32787         68971         PRT104263           8665         44849         ABA101985         20727         56911         EFA200336         32789         68973         PRT104285           8667         44851         ABA102113         20730         56912         EFA200337 |   |       |              |               |       |         |              |       |         |  |
| 8659         44843         ABA101933         20721         56905         EFA200270         32782         68966         PRT104187           8660         44844         ABA101939         20722         56906         EFA200289         32783         68967         PRT104202           8661         44845         ABA101954         20724         56908         EFA200305         32784         68968         PRT104207           8662         44846         ABA101956         20725         56909         EFA200318         32786         68970         PRT104263           8664         44848         ABA101956         20725         56910         EFA200318         32786         68970         PRT104263           8665         44849         ABA101961         20727         56911         EFA200335         32788         68972         PRT104264           8666         44850         ABA101985         20728         56912         EFA200335         32788         68972         PRT104291           8667         44851         ABA102020         20729         56913         EFA200337         32790         68974         PRT104299           8668         44852         ABA102113         20731         56915         EFA200347 |   |       |              |               |       |         | 4            |       |         |  |
| 8660         44844         ABA101939         20722         56906         EFA200289         32783         68967         PRT104202           8661         44845         ABA101949         20723         56907         EFA200305         32784         68968         PRT104207           8662         44846         ABA101954         20724         56908         EFA200313         32785         68969         PRT104233           8663         44847         ABA101956         20725         56909         EFA200318         32786         68970         PRT104263           8664         44848         ABA101958         20726         56910         EFA200332         32787         68971         PRT104263           8665         44849         ABA101985         20728         56912         EFA200335         32788         68972         PRT104285           8666         44851         ABA102102         20729         56913         EFA200335         32789         68973         PRT104291           8667         44851         ABA102113         20730         56914         EFA200342         32791         68975         PRT104353           8669         44853         ABA102118         20731         56915         EFA200342 |   |       |              |               |       |         |              |       |         |  |
| 8661         44845         ABA101949         20723         56907         EFA200305         32784         68968         PRT104207           8662         44846         ABA101954         20724         56908         EFA200313         32785         68969         PRT104233           8663         44847         ABA101956         20725         56909         EFA200318         32786         68970         PRT104263           8664         44848         ABA101958         20726         56910         EFA200328         32787         68971         PRT104264           8666         44850         ABA101985         20728         56912         EFA200336         32788         68972         PRT104285           8667         44851         ABA102020         20729         56913         EFA200336         32789         68973         PRT104299           8668         44852         ABA102113         20730         56914         EFA200342         32791         68975         PRT104367           8670         44854         ABA102118         20731         56915         EFA200342         32791         68976         PRT104367           8671         44854         ABA102118         20732         56916         EFA200347 |   |       |              |               |       | 56905   |              | 32782 | 68966   | PRT104187  |
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| 8669         44853         ABA102114         20731         56915         EFA200345         32792         68976         PRT104367           8670         44854         ABA102118         20732         56916         EFA200347         32793         68977         PRT104379           8671         44855         ABA102122         20733         56917         EFA200349         32794         68978         PRT104389           8672         44856         ABA102159         20734         56918         EFA200363         32795         68979         PRT104389           8673         44857         ABA102167         20735         56919         EFA200364         32796         68980         PRT104389           8674         44858         ABA102168         20736         56920         EFA200365         32797         68981         PRT104399           8675         44859         ABA102170         20737         56921         EFA200367         32798         68982         PRT104418           8676         44860         ABA102199         20738         56922         EFA200371         32799         68983         PRT104423           8677         44861         ABA102246         20739         56923         EFA200374 |   | 8668  | 44852        | ABA102113     |       |         | EFA200342    |       |         | PRT104353  |
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| 8671       44855       ABA102122       20733       56917       EFA200349       32794       68978       PRT104380         8672       44856       ABA102159       20734       56918       EFA200363       32795       68979       PRT104389         8673       44857       ABA102167       20735       56919       EFA200364       32796       68980       PRT104399         8674       44858       ABA102168       20736       56920       EFA200365       32797       68981       PRT104405         8675       44859       ABA102170       20737       56921       EFA200367       32798       68982       PRT104418         8676       44860       ABA102199       20738       56922       EFA200371       32799       68983       PRT104423         8677       44861       ABA102246       20739       56923       EFA200374       32800       68984       PRT104430         8678       44862       ABA102248       20740       56924       EFA200376       32801       68985       PRT104446         8680       44864       ABA102257       20742       56926       EFA200379       32802       68986       PRT104465         8681       44865       ABA  |   |       |              |               |       |         |              |       |         |  |
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| 8673         44857         ABA102167         20735         56919         EFA200364         32796         68980         PRT104399           8674         44858         ABA102168         20736         56920         EFA200365         32797         68981         PRT104405           8675         44859         ABA102170         20737         56921         EFA200367         32798         68982         PRT104418           8676         44860         ABA102199         20738         56922         EFA200371         32799         68983         PRT104423           8677         44861         ABA102246         20739         56923         EFA200374         32800         68984         PRT104430           8678         44862         ABA102248         20740         56924         EFA200376         32801         68985         PRT104443           8679         44863         ABA102251         20741         56925         EFA200377         32802         68986         PRT104466           8681         44865         ABA102257         20742         56926         EFA200379         32803         68987         PRT104466           8682         44866         ABA102315         20744         56928         EFA200380 |   |       |              |               |       |         |              |       |         |  |
| 8674       44858       ABA102168       20736       56920       EFA200365       32797       68981       PRT104405         8675       44859       ABA102170       20737       56921       EFA200367       32798       68982       PRT104418         8676       44860       ABA102199       20738       56922       EFA200371       32799       68983       PRT104423         8677       44861       ABA102246       20739       56923       EFA200374       32800       68984       PRT104430         8678       44862       ABA102248       20740       56924       EFA200376       32801       68985       PRT104443         8679       44863       ABA102251       20741       56925       EFA200377       32802       68986       PRT104446         8680       44864       ABA102257       20742       56926       EFA200379       32803       68987       PRT104465         8681       44865       ABA102299       20743       56927       EFA200380       32804       68988       PRT104466         8682       44866       ABA102315       20744       56928       EFA200383       32805       68989       PRT104467         8683       44867       ABA  |   | *     |              |               |       |         |              |       |         |  |
| 8675       44859       ABA102170       20737       56921       EFA200367       32798       68982       PRT104418         8676       44860       ABA102199       20738       56922       EFA200371       32799       68983       PRT104423         8677       44861       ABA102246       20739       56923       EFA200374       32800       68984       PRT104430         8678       44862       ABA102248       20740       56924       EFA200376       32801       68985       PRT104443         8679       44863       ABA102251       20741       56925       EFA200377       32802       68986       PRT104446         8680       44864       ABA102257       20742       56926       EFA200379       32803       68987       PRT104465         8681       44865       ABA102299       20743       56927       EFA200380       32804       68988       PRT104466         8682       44866       ABA102315       20744       56928       EFA200383       32805       68989       PRT104476         8683       44867       ABA102333       20745       56929       EFA200385       32806       68990       PRT104476         8684       44868       ABA  |   |       |              |               |       |         |              |       |         |  |
| 8676       44860       ABA102199       20738       56922       EFA200371       32799       68983       PRT104423         8677       44861       ABA102246       20739       56923       EFA200374       32800       68984       PRT104430         8678       44862       ABA102248       20740       56924       EFA200376       32801       68985       PRT104443         8679       44863       ABA102251       20741       56925       EFA200377       32802       68986       PRT104446         8680       44864       ABA102257       20742       56926       EFA200379       32803       68987       PRT104465         8681       44865       ABA102299       20743       56927       EFA200380       32804       68988       PRT104466         8682       44866       ABA102315       20744       56928       EFA200383       32805       68989       PRT104467         8683       44867       ABA102333       20745       56929       EFA200384       32806       68990       PRT104476         8684       44868       ABA102333       20746       56930       EFA200385       32807       68991       PRT104499   |   |       |              |               |       |         |              |       |         |  |
| 8677       44861       ABA102246       20739       56923       EFA200374       32800       68984       PRT104430         8678       44862       ABA102248       20740       56924       EFA200376       32801       68985       PRT104443         8679       44863       ABA102251       20741       56925       EFA200377       32802       68986       PRT104446         8680       44864       ABA102257       20742       56926       EFA200379       32803       68987       PRT104465         8681       44865       ABA102299       20743       56927       EFA200380       32804       68988       PRT104466         8682       44866       ABA102315       20744       56928       EFA200383       32805       68989       PRT104467         8683       44867       ABA102320       20745       56929       EFA200384       32806       68990       PRT104476         8684       44868       ABA102333       20746       56930       EFA200385       32807       68991       PRT104499  |   |       |              | 1             |       |         |              |       |         |  |
| 8678       44862       ABA102248       20740       56924       EFA200376       32801       68985       PRT104443         8679       44863       ABA102251       20741       56925       EFA200377       32802       68986       PRT104446         8680       44864       ABA102257       20742       56926       EFA200379       32803       68987       PRT104465         8681       44865       ABA102299       20743       56927       EFA200380       32804       68988       PRT104466         8682       44866       ABA102315       20744       56928       EFA200383       32805       68989       PRT104467         8683       44867       ABA102320       20745       56929       EFA200384       32806       68990       PRT104476         8684       44868       ABA102333       20746       56930       EFA200385       32807       68991       PRT104499   |   |       |              |               |       |         |              |       |         |  |
| 8679       44863       ABA102251       20741       56925       EFA200377       32802       68986       PRT104446         8680       44864       ABA102257       20742       56926       EFA200379       32803       68987       PRT104465         8681       44865       ABA102299       20743       56927       EFA200380       32804       68988       PRT104466         8682       44866       ABA102315       20744       56928       EFA200383       32805       68989       PRT104467         8683       44867       ABA102320       20745       56929       EFA200384       32806       68990       PRT104476         8684       44868       ABA102333       20746       56930       EFA200385       32807       68991       PRT104499  |   |       |              |               |       |         |              |       |         |  |
| 8680       44864       ABA102257       20742       56926       EFA200379       32803       68987       PRT104465         8681       44865       ABA102299       20743       56927       EFA200380       32804       68988       PRT104466         8682       44866       ABA102315       20744       56928       EFA200383       32805       68989       PRT104467         8683       44867       ABA102320       20745       56929       EFA200384       32806       68990       PRT104476         8684       44868       ABA102333       20746       56930       EFA200385       32807       68991       PRT104499   |   |       |              | E E           |       |         |              |       |         |  |
| 8681       44865       ABA102299       20743       56927       EFA200380       32804       68988       PRT104466         8682       44866       ABA102315       20744       56928       EFA200383       32805       68989       PRT104467         8683       44867       ABA102320       20745       56929       EFA200384       32806       68990       PRT104476         8684       44868       ABA102333       20746       56930       EFA200385       32807       68991       PRT104499  |   |       |              |               |       |         |              |       |         |  |
| 8682       44866       ABA102315       20744       56928       EFA200383       32805       68989       PRT104467         8683       44867       ABA102320       20745       56929       EFA200384       32806       68990       PRT104476         8684       44868       ABA102333       20746       56930       EFA200385       32807       68991       PRT104499   |   |       |              |               |       |         |              |       |         |  |
| 8683 44867 ABA102320 20745 56929 EFA200384 32806 68990 PRT104476<br>8684 44868 ABA102333 20746 56930 EFA200385 32807 68991 PRT104499   |   | ٠.    |              |               |       |         |              |       |         |  |
| 8684 44868 ABA102333 20746 56930 EFA200385 32807 68991 PRT104499   |   |       |              |               |       |         |              |       |         |  |
|  |   |       |              |               |       |         |              |       |         |  |
| 8685 44869 ABA102335   20747 56931 EFA200386   32808 68992 PRT104501   |   |       |              |               |       |         |              |       |         |  |
|  |   | 8085  | 44869        | ABA102335     | 20747 | 56931   | EFA200386    | 32808 | 68992   | PKT104501  |

|       | 52/07/105 | ar ml        | D3.7.4 | ъ.      | a r ml                                  | TOTAL | 1 C 17 U 3 U       |              |
|-------|-----------|--------------|--------|---------|---|-------|--------------------|--------------|
| DNA   | Protein   | Gene LocusID | DNA    | Protein | Gene LocusID                            | DNA   | Protein            | Gene LocusID |
| SeqID | SeqID     |              | SeqID  | SeqID   |   | SeqID | SeqID              |              |
| 8686  | 44870     | ABA102336    | 20748  | 56932   | EFA200390                               | 32809 | 68993              | PRT104507    |
| 8687  | 44871     | ABA102339    | 20749  | 56933   | EFA200393                               | 32810 | 68994              | PRT104518    |
| 8688  | 44872     | ABA102343    | 20750  | 56934   | EFA200395                               | 32811 | 68995              | PRT104530    |
| 8689  | 44873     | ABA102357    | 20751  | 56935   | EFA200396                               | 32812 | 68996              | PRT104531    |
| 8690  | 44874     | ABA102358    | 20752  | 56936   | EFA200401                               | 32813 | 68997              | PRT104542    |
| 8691  | 44875     | ABA102360    | 20753  | 56937   | EFA200404                               | 32814 | 68998              | PRT104544    |
| 8692  | 44876     | ABA102375    | 20754  | 56938   | EFA200419                               | 32815 | 68999              | PRT104545    |
| 8693  | 44877     | ABA102417    | 20755  | 56939   | EFA200422                               | 32816 | 69000              | PRT104576    |
| 8694  | 44878     | ABA102422    | 20756  | 56940   | EFA200424                               | 32817 | 69001              | PRT104586    |
| 8695  | 44879     | ABA102434    | 20757  | 56941   | EFA200426                               | 32818 | 69002              | PRT104596    |
| 8696  | 44880     | ABA102453    | 20758  | 56942   | EFA200427                               | 32819 | 69003              | PRT104598    |
| 8697  | 44881     | ABA102462    | 20759  | 56943   | EFA200429                               | 32820 | 69004              | PRT104604    |
| 8698  | 44882     | ABA102495    | 20760  | 56944   | EFA200432                               | 32821 | 69005              | PRT104614    |
| 8699  | 44883     | ABA102496    | 20761  | 56945   | EFA200434                               | 32822 | 69006              | PRT104636    |
| 8700  | 44884     | ABA102498    | 20762  | 56946   | EFA200438                               | 32823 | 69007              | PRT104641    |
| 8701  | 44885     | ABA102500    | 20763  | 56947   | EFA200443                               | 32824 | 69008              | PRT104644    |
| 8702  | 44886     | ABA102501    | 20764  | 56948   | EFA200448                               | 32825 | 69009              | PRT104654    |
| 8703  | 44887     | ABA102503    | 20765  | 56949   | EFA200462                               | 32826 | 69010              | PRT104687    |
| 8704  | 44888     | ABA102523    | 20766  | 56950   | EFA200464                               | 32827 | 69011              | PRT104688    |
| 8705  | 44889     | ABA102526    | 20767  | 56951   | EFA200470                               | 32828 | 69012              | PRT104690    |
| 8706  | 44890     | ABA102541    | 20768  | 56952   | EFA200470                               | 32829 | 69013              | PRT104691    |
| 8707  | 44891     | ABA102546    | 20769  | 56953   | EFA200471                               | 32830 | 69014              | PRT104693    |
| 8708  | 44892     | ABA102548    | 20770  | 56954   | EFA200476                               | 32831 | 69015              | PRT104700    |
| 8709  | 44893     | ABA102567    | 20771  | 56955   | EFA200477                               | 32832 | 69016              | PRT104707    |
| 8710  | 44894     | ABA102578    | 20772  | 56956   | EFA200479                               | 32833 | 69017              | PRT104707    |
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| 9019         | 45203          | ABA105593              | 21081          | 57265          | EFA202070              | 33142          | 69326          | PSY101204              |
| 9020         | 45204          | ABA105599              | 21082          | 57266          | EFA202071              | 33143          | 69327          | PSY101205              |
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| 9197  | 45381   | BAN100778              | 21259 | 57443   | EFM100682              | 33320 | 69504   | PSY102749    |
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| 9201  | 45385   | BAN100797              | 21263 | 57447   | EFM100705              | 33324 | 69508   | PSY102770    |
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| 9208  | 45392   | BAN100828              | 21270 | 57454   | EFM100758              | 33331 | 69515   | PSY102797    |
| 9209  | 45393   | BAN100831              | 21271 | 57455   | EFM100759              | 33332 | 69516   | PSY102798    |
| 9210  | 45394   | BAN100835              | 21272 | 57456   | EFM100783              | 33333 | 69517   | PSY102809    |
| 9211  | 45395   | BAN100839              | 21273 | 57457   | EFM100784              | 33334 | 69518   | PSY102814    |
| 9212  | 45396   | BAN100845              | 21274 | 57458   | EFM100811              | 33335 | 69519   | PSY102817    |
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| 9234  | 45418   | BAN100998              | 21296 | 57480   | EFM101138              | 33357 | 69541   | PSY102933    |
| 9235  | 45419   | BAN101011              | 21297 | 57481   | EFM101163              | 33358 | 69542   | PSY102936    |
|       |         |                        |       | 240     |                        | 1     |         |              |

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| 9238   | 45422    | BAN101040    | 21300 | 57484          | EFM101238    | 33361 | 69545      | PSY102964                             |
| 9239   | 45423    | BAN101047    | 21301 | 57485          | EFM101242    | 33362 | 69546      | PSY102978                             |
| 9240   | 45424    | BAN101050    | 21301 | 57486          | EFM101244    | 33363 | 69547      | PSY102991                             |
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| 9242   | 45426    | BAN101059    | 21304 | 57488          | EFM101256    | 33365 | 69549      | PSY103013                             |
| 9243   | 45427    | BAN101064    | 21305 | 57489          | EFM101257    | 33366 | 69550      | PSY103014                             |
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| 9245   | 45429    | BAN101075    | 21307 | 57491          | EFM101277    | 33368 | 69552      | PSY103027                             |
| 9246   | 45430    | BAN101080    | 21308 | 57492          | EFM101283    | 33369 | 69553      | PSY103030                             |
| 9247   | 45431    | BAN101095    | 21309 | 57493          | EFM101382    | 33370 | 69554      | PSY103036                             |
| 9248   | 45432    | BAN101097    | 21310 | 57494          | EFM101390    | 33371 | 69555      | PSY103037                             |
| 9249   | 45433    | BAN101120    | 21311 | 57495          | EFM101435    | 33372 | 69556      | PSY103044                             |
| 9250   | 45434    | BAN101130    | 21312 | 57496          | EFM101476    | 33373 | 69557      | PSY103047                             |
| 9251   | 45435    | BAN101135    | 21312 | 57497          | EFM101478    | 33374 | 69558      |                                       |
|        |          |              |       |                |              |       |            | PSY103050                             |
| 9252   | 45436    | BAN101161    | 21314 | 57498          | EFM101508    | 33375 | 69559      | PSY103058                             |
| 9253   | 45437    | BAN101178    | 21315 | 57499          | EFM101518    | 33376 | 69560      | PSY103060                             |
| 9254   | 45438    | BAN101189    | 21316 | 57500          | EFM101550    | 33377 | 69561      | PSY103061                             |
| 9255   | 45439    | BAN101197    | 21317 | 57501          | EFM101557    | 33378 | 69562      | PSY103076                             |
| 9256   | 45440    | BAN101204    | 21318 | 57502          | EFM101564    | 33379 | 69563      | PSY103084                             |
| 9257   | 45441    | BAN101218    | 21319 | 57503          | EFM101566    | 33380 | 69564      | PSY103089                             |
| 9258   | 45442    | BAN101221    | 21320 | 57504          | EFM101645    | 33381 | 69565      | PSY103100                             |
| 9259   | 45443    | BAN101226    | 21321 | 57505          | EFM101648    | 33382 | 69566      | PSY103102                             |
| 9260   | 45444    | BAN101235    | 21322 | 57506          | EFM101677    | 33383 | 69567      | PSY103108                             |
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| 9262   | 45446    | BAN101242    | 21324 | 57508          | EFM101685    | 33385 | 69569      | PSY103112                             |
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| 9264   | 45448    | BAN101282    | 21326 | 57510          | EFM101770    | 33387 | 69571      | PSY103114                             |
| 9265   | 45449    | BAN101292    | 21327 | 57510<br>57511 | EFM101770    | 33388 | 69572      | PSY103115                             |
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| 9267   | 45451    | BAN101298    | 21329 | 57513          | EFM101912    | 33390 | 69574      | PSY103122                             |
| 9268   | 45452    | BAN101318    | 21330 | 57514          | EFM101932    | 33391 | 69575      | PSY103125                             |
| 9269   | 45453    | BAN101319    | 21331 | 57515          | EFM101937    | 33392 | 69576      | PSY103131                             |
| 9270   | 45454    | BAN101337    | 21332 | 57516          | EFM101954    | 33393 | 69577      | PSY103136                             |
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| 9272   | 45456    | BAN101366    | 21334 | 57518          | EFM101977    | 33395 | 69579      | PSY103164                             |
| 9273   | 45457    | BAN101367    | 21335 | 57519          | EFM102001    | 33396 | 69580      | PSY103165                             |
| 9274   | 45458    | BAN101372    | 21336 | 57520          | EFM102024    | 33397 | 69581      | PSY103180                             |
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| 9277   | 45461    | BAN101414    | 21339 | 57523          | EFM102057    | 33400 | 69584      | PSY103191                             |
| 9278   | 45462    | BAN101423    | 21340 | 57524          | EFM102089    | 33401 | 69585      | PSY103194                             |
| 9279   | 45463    | BAN101424    | 21341 | 57525          | EFM102093    | 33402 | 69586      | PSY103202                             |
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|        |          | BAN101433    | 21342 | 57526          | EFM102193    | 33403 | 69587      | PSY103212                             |
| 9281   | 45465    | BAN101436    | 21343 | 57527          | EFM102196    | 33404 | 69588      | PSY103215                             |
| 9282   | 45466    | BAN101440    | 21344 | 57528          | EFM102207    | 33405 | 69589      | PSY103222                             |
| 9283   | 45467    | BAN101449    | 21345 | 57529          | EFM102228    | 33406 | 69590      | PSY103224                             |
| 9284   | 45468    | BAN101451    | 21346 | 57530          | EFM102258    | 33407 | 69591      | PSY103237                             |
| 9285   | 45469    | BAN101459    | 21347 | 57531          | EFM102283    | 33408 | 69592      | PSY103255                             |
| 9286   | 45470    | BAN101466    | 21348 | 57532          | EFM102296    | 33409 | 69593      | PSY103261                             |
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| 9290   | 45474    | BAN101506    | 21352 | 57536          | EFM102382    | 33413 | 69597      | PSY103291                             |
|        | •        |              |       |                |              |       |            | <del></del>                           |

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|--------------|----------------|------------------------|----------------|----------------|------------------------|-------|---------|------------------------|
| DNA          | Protein        | Gene LocusID           | DNA            | Protein        | Gene LocusID           | DNA   | Protein | Gene LocusID           |
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| 9294<br>9295 | 45479          | BAN101551<br>BAN101552 | 21357          | 57541          | EFM102400<br>EFM102508 | 33417 | 69602   | PSY103312              |
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| 9297         | 45481          | BAN101564              | 21358          | 57543          | EFM102505<br>EFM102626 | 33420 | 69604   | PSY103327              |
| 9298         | 45482          | BAN101568              | 21360          | 57544          | EFM102997              | 33421 | 69605   | PSY103333              |
| 9299         | 45483          | BAN101569              | 21361          | 57545          | EFM103017              | 33422 | 69606   | PSY103335              |
| 9300         | 45484          | BAN101572              | 21362          | 57546          | EFM103017              | 33423 | 69607   | PSY103338              |
| 9301         | 45485          | BAN101572<br>BAN101583 | 21363          | 57547          | EFM103205              | 33424 | 69608   | PSY103339              |
| 9302         | 45486          | BAN101585              | 21364          | 57548          | EFM103220              | 33425 | 69609   | PSY103340              |
| 9303         | 45487          | BAN101606              | 21365          | 57549          | EFM103325              | 33426 | 69610   | PSY103348              |
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| 9305         | 45489          | BAN101612              | 21367          | 57551          | EFM200001              | 33428 | 69612   | PSY103379              |
| 9306         | 45490          | BAN101637              | 21368          | 57552          | EFM200008              | 33429 | 69613   | PSY103381              |
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| 9318         | 45502          | BAN101703              | 21380          | 57564          | EFM200093              | 33441 | 69625   | PSY103410              |
| 9319         | 45503          | BAN101705              | 21381          | 57565          | EFM200105              | 33442 | 69626   | PSY103413              |
| 9320         | 45504          | BAN101706              | 21382          | 57566          | EFM200106              | 33443 | 69627   | PSY103420              |
| 9321         | 45505          | BAN101717              | 21383          | 57567          | EFM200108              | 33444 | 69628   | PSY103429              |
| 9322         | 45506          | BAN101728              | 21384          | 57568          | EFM200109              | 33445 | 69629   | PSY103430              |
| 9323         | 45507          | BAN101731              | 21385          | 57569          | EFM200112              | 33446 | 69630   | PSY103431              |
| 9324         | 45508          | BAN101755              | 21386          | 57570          | EFM200113              | 33447 | 69631   | PSY103433              |
| 9325         | 45509          | BAN101759              | 21387          | 57571          | EFM200126              | 33448 | 69632   | PSY103434              |
| 9326         | 45510          | BAN101766              | 21388          | 57572          | EFM200127              | 33449 | 69633   | PSY103435              |
| 9327         | 45511          | BAN101769              | 21389          | 57573          | EFM200128              | 33450 | 69634   | PSY103436              |
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| 9334         | 45518          | BAN101821              | 21396          | 57580          | EFM200170              | 33457 | 69641   | PSY103492              |
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| 9339         | 45523          | BAN101871              | 21401          | 57585          | EFM200194              | 33462 | 69646   | PSY103533              |
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| 9342         | 45526          | BAN101891              | 21404          | 57588          | EFM200204              | 33465 | 69649   | PSY103554              |
| 9343         | 45527          | BAN101892              | 21405          | 57589          | EFM200208              | 33466 | 69650   | PSY103555              |
| 9344         | 45528          | BAN101900              | 21406          | 57590<br>57501 | EFM200209              | 33467 | 69651   | PSY103557              |
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|-----------------|----------|--------------|-------|---------|---------------|-------|---------|---------------|
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| 9349            | 45533    | BAN101920    | 21411 | 57595   | EFM200238     | 33472 | 69656   | PSY103584     |
| 9350            | 45534    | BAN101922    | 21412 | 57596   | EFM200246     | 33473 | 69657   | PSY103587     |
| 9351            | 45535    | BAN101932    | 21413 | 57597   | EFM200248     | 33474 | 69658   | PSY103596     |
| 9352            | 45536    | BAN101961    | 21414 | 57598   | EFM200250     | 33475 | 69659   | PSY103601     |
| 9353            | 45537    | BAN101977    | 21415 | 57599   | EFM200252     | 33476 | 69660   | PSY103605     |
| 9354            | 45538    | BAN101985    | 21416 | 57600   | EFM200259     | 33477 | 69661   | PSY103606     |
| 9355            | 45539    | BAN102006    | 21417 | 57601   | EFM200260     | 33478 | 69662   | PSY103607     |
| 9356            | 45540    | BAN102017    | 21418 | 57602   | EFM200261     | 33479 | 69663   | PSY103622     |
| 9357            | 45541    | BAN102018    | 21419 | 57603   | EFM200265     | 33480 | 69664   | PSY103646     |
| 9358            | 45542    | BAN102021    | 21420 | 57604   | EFM200286     | 33481 | 69665   | PSY103648     |
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|       |         |                        |       |         |                        |       | 101/030 |              |
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| 9740                     | 45924          | BAN105225              | 21801   | 57986          | EFM202384              | 33863 | 70047          | PSY106953    |
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| 9744                     | 45928          | BAN105237<br>BAN105239 | 21805   | 57990          | EFM202396              | 33867 | 70050          | PSY107011    |
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| 9743<br>9746             | 45930          | BAN105249              | 21807   | 57991<br>57992 | EFM202397<br>EFM202398 | 33869 | 70052          | PSY107047    |
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| 9760                     | 45944          | BAN105357              | 21822   | 58006          | EFM202467              | 33883 | 70067          | PSY107337    |
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| 9783                     | 45967          | BAN105541              | 21845   | 58029          | EFM202587              | 33906 | 70090          | PSY107807    |
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| 9785                     | 45969          | BAN105551              | 21847   | 58031          | EFM202592              | 33908 | 70092          | PSY107890    |

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| 9853  | 46037   | BAN106081    | 21915 | 58099   | HIN100186    | 33976 | 70160   | PSY109052    |
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|    |                 |             |                        |                | 362              |                        |                |                  | •                      |

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| 10017          | 46202          | BAN107282              | 22079          | 58264          | HIN100671              | 34141          | 70324          | SAU801337              |
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| 10665          | 46849          | BAN112473              | 22727          | 58911          | HPY101185              | 34788          | 70972          | SEP201611              |
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| 10677             | 46861          | BAN112567              | 22739          | 58923                  | HPY101220              | 34800          | 70984          | SEP201646              |
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| 10696             | 46880          | BAN112727              | 22758          | 58942                  | HPY101274              | 34819          | 71003          | SEP201702              |
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| 10860          | 47044          | BBU100187              | 22922          | 59106          | KPN200136              | 34983          | 71167          | SEP202063              |
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| 10998          | 47182          | BBU100541              | 23060          | 59244          | KPN300345              | 35121          | 71305          | SHA100169              |
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|----------------|----------------|------------------------|----------------|----------------|------------------------|----------------|----------------|------------------------|
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| 11114          | 47298          | BCE100122              | 23176          | 59360          | KPN300870              | 35237          | 71421          | SHA100589              |
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| 11118          | 47302          | BCE100234              | 23180          | 59364          | KPN300876              | 35241          | 71425          | SHA100601              |
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| 11164   47348   BCE100967   23227   59410   KPN301099   35287   71471   SINA100764     11166   47350   BCE100985   23228   59412   KPN301109   35289   71473   SINA100765     11167   47351   BCE100980   23228   59412   KPN301109   35289   71473   SINA100765     11168   47352   BCE100990   23230   59414   KPN301111   35290   71474   SINA100768     11169   47353   BCE101034   23231   59415   KPN301111   35290   71475   SINA100768     11170   47354   BCE101035   23232   59416   KPN301111   35291   71475   SINA100770     11171   47355   BCE101065   23233   59417   KPN301117   35294   71478   SINA100770     11173   47356   BCE101068   23233   59417   KPN301121   35294   71478   SINA100771     11174   47358   BCE101088   23235   59419   KPN301121   35296   71489   SINA100771     11175   47359   BCE101162   23237   59421   KPN301121   35296   71480   SINA100773     11176   47360   BCE101162   23237   59421   KPN301122   35296   71480   SINA100773     11177   47361   BCE101162   23237   59421   KPN301122   35296   71480   SINA100773     11178   47362   BCE101162   23238   59422   KPN301123   35296   71480   SINA100773     11179   47363   BCE101167   23240   59424   KPN301141   35301   71485   SINA100773     11180   47364   BCE101176   23241   59425   KPN301143   35302   71486   SINA100778     11181   47365   BCE101181   23241   59425   KPN301144   35301   71485   SINA100794     11181   47365   BCE101181   23242   59426   KPN301149   35303   71487   SINA100794     11181   47366   BCE101181   23243   59427   KPN301149   35305   71489   SINA100794     11181   47368   BCE101204   23245   59428   KPN301149   35305   71489   SINA100794     11181   47368   BCE101204   23245   59428   KPN301149   35305   71489   SINA100794     11181   47368   BCE101250   23246   59430   KPN301179   35306   71499   SINA100804     11184   47370   BCE101252   23251   59436   KPN301179   35310   71494   SINA100804     11184   47378   BCE101250   23245   59436   KPN301179   35310   71495   SINA100804     11184   47378   BCE101250   23245   59436   |       |           |   |       | 59408   |              | 35285 | 71469   | SHA100756    |
| 11165   47349   BCE100985   23228   59412   KPN301102   35228   71473   SHA100766     11167   47351   BCE100989   23229   59413   KPN301110   35290   71474   SHA100766     11168   47352   BCE100989   23231   59415   KPN301111   35291   71475   SHA100766     11169   47353   BCE101034   23231   59415   KPN301111   35291   71475   SHA100766     11170   47354   BCE101035   23232   59416   KPN301111   35292   71476   SHA100769     11171   47355   BCE101065   23233   59417   KPN301117   35293   71477   SHA100771     11172   47356   BCE101065   23233   59417   KPN301112   35293   71477   SHA100771     11173   47357   BCE101081   23235   59419   KPN301120   35295   71480   SHA100773     11174   47358   BCE101088   23236   59420   KPN301122   35296   71480   SHA100773     11175   47350   BCE101162   23237   59421   KPN301122   35297   71481   SHA100774     11176   47360   BCE101162   23238   59422   KPN301123   35298   71482   SHA100773     11177   47361   BCE101162   23238   59422   KPN301123   35296   71482   SHA100773     11178   47362   BCE101162   23238   59422   KPN301133   35299   71483   SHA100773     11179   47363   BCE101177   23240   59426   KPN301143   35300   71484   SHA100779     11181   47368   BCE101177   23242   59426   KPN301143   35300   71485   SHA100791     11181   47368   BCE101181   23243   59427   KPN301149   35305   71489   SHA100791     11182   47366   BCE101181   23243   59426   KPN301146   35303   71487   SHA100791     11183   47367   BCE101204   23245   59426   KPN301147   35304   71488   SHA100791     11184   47368   BCE101203   23245   59426   KPN301149   35305   71489   SHA100801     11184   47368   BCE101230   23245   59426   KPN301179   35305   71499   SHA100801     11185   47376   BCE101230   23245   59436   KPN301179   35305   71499   SHA100801     11189   47373   BCE101232   23247   59431   KPN301179   35315   71499   SHA100801     11189   47373   BCE101232   23247   59436   KPN301179   35315   71499   SHA100802     11190   47388   BCE101393   23255   59449   KPN301179   35315   71 | 11163 | 47347     | BCE100962                                 | 23225 | 59409   | KPN301095    | 35286 | 71470   | SHA100761    |
| 11166   47350   BCE100985   23228   59412   KPN301109   35289   71473   SHA100766   SHA100766   SHA100766   SHA100766   SHA100768   SHA100769   SHA100769   SHA100769   SHA100769   SHA100769   SHA100769   SHA100769   SHA100770   SHA100770   SHA100770   SHA100770   SHA100770   SHA100770   SHA100770   SHA100770   SHA100770   SHA100773   SHA100774   SHA1 | 11164 | 47348     | BCE100967                                 | 23226 | 59410   | KPN301099    | 35287 | 71471   | SHA100763    |
| 11167  | 11165 | 47349     | BCE100976                                 | 23227 | 59411   | KPN301102    | 35288 | 71472   | SHA100764    |
| 11168   47352   BCE101034   23231   59414   KPN301113   35291   71475   SHA100768   11169   47354   BCE101035   23232   59415   KPN301116   35293   71477   SHA100770   11171   47355   BCE101065   23233   59417   KPN301116   35293   71477   SHA100771   11171   47356   BCE101065   23233   59417   KPN301117   35294   71478   SHA100771   11173   47356   BCE101068   23234   59418   KPN301120   35295   71479   SHA100772   11173   47357   BCE101081   23235   59419   KPN301121   35296   71480   SHA100773   11174   47358   BCE101168   23237   59421   KPN301123   35298   71481   SHA100774   11175   47359   BCE101162   23238   59420   KPN301123   35298   71482   SHA100775   11176   47360   BCE101162   23237   59421   KPN301133   35299   71483   SHA100775   11177   47361   BCE101166   23237   59421   KPN301133   35299   71483   SHA100775   11179   47363   BCE101167   23240   59424   KPN301139   35300   71484   SHA100778   11179   47363   BCE101177   23242   59426   KPN301141   35301   71485   SHA100780   11180   47366   BCE101197   23244   59425   KPN301143   35302   71486   SHA100780   11182   47365   BCE101199   23244   59425   KPN301147   35305   71489   SHA100792   11182   47366   BCE101199   23244   59428   KPN301149   35305   71489   SHA100792   11184   47368   BCE101208   23246   59429   KPN301152   35306   71490   SHA100805   11186   47370   BCE101204   23247   59431   KPN301170   35308   71490   SHA100805   11186   47370   BCE101230   23246   59439   KPN301170   35308   71490   SHA100805   11186   47373   BCE101230   23246   59438   KPN301170   35308   71499   SHA100813   11187   47373   BCE101230   23246   59438   KPN301170   35308   71490   SHA100813   11189   47373   BCE101230   23246   59438   KPN301170   35308   71490   SHA100813   11189   47373   BCE101230   23246   59438   KPN301170   35310   71495   SHA100813   11190   47374   BCE101237   23255   59437   KPN301180   35313   71497   SHA100824   11190   47374   BCE101237   23255   59437   KPN301170   35316   71500   SHA100824   11190   47374   BCE101237    | 11166 | 47350     | BCE100985                                 | 23228 | 59412   | KPN301109    | 35289 | 71473   | SHA100765    |
| 11169  | 11167 | 47351     | BCE100989                                 | 23229 | 59413   | KPN301110    | 35290 | 71474   | SHA100766    |
| 11170  | 11168 | 47352     | BCE100990                                 | 23230 | 59414   | KPN301111    | 35291 | 71475   | SHA100768    |
| 11171  | 11169 | 47353     | BCE101034                                 | 23231 | 59415   | KPN301113    | 35292 | 71476   | SHA100769    |
| 11172   47355   BCE101069   23234   59418   KPN301120   35295   71479   SHA100772   11173   47357   BCE101081   23235   59419   KPN301121   35296   71480   SHA100773   11174   47358   BCE101168   23237   59421   KPN301122   35297   71481   SHA100773   11176   47360   BCE101116   23237   59421   KPN301123   35298   71482   SHA1007771   11177   47361   BCE101166   23238   59422   KPN301133   35298   71482   SHA1007771   11177   47361   BCE101166   23238   59422   KPN301139   35300   71484   SHA1007771   11178   47362   BCE101174   23240   59424   KPN301141   35301   71485   SHA100778   11179   47363   BCE101174   23241   59425   KPN301143   35302   71486   SHA100785   11180   47364   BCE101177   23242   59426   KPN301146   35303   71487   SHA100791   11181   47365   BCE101181   23243   59427   KPN301149   35305   71489   SHA100791   11182   47366   BCE101120   23244   59428   KPN301149   35305   71489   SHA100791   11184   47368   BCE101204   23245   59429   KPN301152   35306   71490   SHA100807   11184   47368   BCE101202   23247   59431   KPN301170   35308   71492   SHA100809   11186   47370   BCE101232   23248   59432   KPN301170   35308   71492   SHA100809   11188   47373   BCE101232   23248   59432   KPN301170   35308   71492   SHA100819   11189   47373   BCE101232   23245   59436   KPN301170   35308   71492   SHA100819   11189   47373   BCE101252   23251   59435   KPN301170   35311   71495   SHA100819   11189   47378   BCE101253   23252   59436   KPN301180   35311   71495   SHA100824   11191   47377   BCE101252   23251   59435   KPN301180   35313   71497   SHA100824   11194   47378   BCE101253   23254   59438   KPN301180   35313   71497   SHA100824   11194   47378   BCE101370   23255   59436   KPN301180   35315   71505   SHA100843   11194   47378   BCE101370   23255   59436   KPN301207   35316   71505   SHA100843   11194   47378   BCE101370   23255   59436   KPN301276   35327   71501   SHA100843   11194   47388   BCE101370   23255   59446   KPN301254   35327   71505   SHA100845   11204   47388   BCE101468 | 11170 | 47354     | BCE101035                                 | 23232 | 59416   | KPN301116    | 35293 | 71477   |              |
| 11173   47357   BCE101081   23235   59419   KPN301121   35296   71480   SHA100773   11175   47358   BCE101116   23237   59421   KPN301123   35297   71481   SHA100775   11176   47360   BCE101162   23238   59422   KPN301135   35299   71482   SHA100775   11177   47361   BCE101166   23238   59422   KPN301135   35299   71483   SHA100777   11177   47361   BCE101164   23240   59424   KPN301135   35299   71483   SHA100777   11177   47361   BCE101174   23240   59424   KPN301141   35300   71484   SHA100778   11178   47362   BCE101174   23241   59425   KPN301141   35301   71485   SHA100780   11180   47364   BCE101177   23242   59426   KPN301141   35302   71486   SHA100781   11180   47364   BCE101181   23243   59427   KPN301147   35304   71487   SHA100791   11181   47365   BCE101181   23243   59427   KPN301147   35304   71485   SHA100791   11182   47366   BCE101208   23245   59429   KPN301149   35305   71489   SHA100805   11184   47368   BCE101208   23245   59429   KPN301162   35307   71491   SHA100807   11186   47370   BCE101230   23247   59431   KPN301170   35308   71492   SHA100813   11187   47371   BCE101233   23248   59432   KPN301176   35307   71491   SHA100813   11188   47372   BCE101232   23245   59434   KPN301176   35310   71494   SHA100814   11188   47373   BCE101225   23255   59434   KPN301179   35312   71496   SHA100813   11189   47373   BCE101252   23255   59436   KPN301179   35312   71496   SHA100823   11190   47374   BCE101257   23253   59437   KPN301179   35317   7150   SHA100823   11194   47378   BCE101287   23255   59436   KPN301180   35313   71497   SHA100824   11191   47378   BCE101370   23255   59440   KPN301209   35315   71499   SHA100834   11196   47380   BCE101378   23256   59446   KPN301224   35317   7150   SHA100834   11196   47384   BCE101378   23265   59446   KPN301254   35327   7150   SHA100845   11202   47388   BCE101378   23266   59446   KPN301254   35327   7150   SHA100845   11202   47388   BCE101379   23266   59446   KPN301256   35327   71510   SHA100866   11200   47384   BCE101379   2326 | 11171 | 47355     | BCE101065                                 | 23233 | 59417   | KPN301117    | 35294 | 71478   | SHA100771    |
| 11174   47358   BCEI01088   23236   59420   KPN301122   35297   71481   SHA100774   11175   47360   BCEI011162   23238   59422   KPN301135   35298   71482   SHA1007775   11176   47360   BCEI01166   23239   59423   KPN301139   35300   71485   SHA100778   11178   47362   BCEI01176   23241   59425   KPN301139   35300   71485   SHA100778   11179   47363   BCEI01176   23241   59425   KPN301143   35302   71485   SHA100785   11180   47364   BCEI01177   23242   59426   KPN301143   35302   71485   SHA100785   11180   47364   BCEI01177   23242   59426   KPN301143   35302   71485   SHA100785   11181   47365   BCEI01189   23243   59427   KPN301143   35304   71487   SHA100792   11182   47366   BCEI01199   23244   59428   KPN301149   35305   71489   SHA100794   11183   47367   BCEI01204   23245   59429   KPN301149   35305   71489   SHA10080794   11184   47368   BCEI01204   23245   59430   KPN301162   35306   71490   SHA10080794   11186   47370   BCEI01220   23248   59431   KPN301170   35308   71492   SHA100809   11186   47370   BCEI01232   23248   59432   KPN301170   35308   71492   SHA100819   11188   47372   BCEI01233   23249   59433   KPN301176   35310   71494   SHA100814   11188   47373   BCEI01250   23250   59434   KPN301176   35310   71494   SHA100814   11189   47375   BCEI01253   23252   59436   KPN301180   35313   71497   SHA100824   11191   47375   BCEI01273   23253   59437   KPN301180   35313   71497   SHA100824   11194   47378   BCEI01370   23255   59436   KPN301180   35313   71497   SHA100824   11194   47378   BCEI01370   23255   59436   KPN301207   35316   71500   SHA100834   11194   47378   BCEI01370   23255   59436   KPN301207   35316   71500   SHA100845   11194   47388   BCEI01370   23255   59446   KPN301224   35319   71501   SHA100845   11194   47388   BCEI01370   23256   59446   KPN301254   35327   71501   SHA100845   11204   47388   BCEI01370   23266   59446   KPN301254   35327   71501   SHA100866   11204   47388   BCEI01469   23266   59446   KPN301260   35324   71508   SHA100885   11204   47388   BCEI01 | 11172 | 47356     | BCE101069                                 |       | 59418   | KPN301120    |       | 71479   | SHA100772    |
| 11175   47359   BCE101162   23237   59421   KPN301123   35298   71482   SHA100775   11176   47360   BCE101166   23239   59422   KPN301135   35299   71483   SHA100778   11177   47361   BCE101166   23239   59422   KPN301139   35300   71484   SHA100778   11179   47363   BCE101174   23240   59424   KPN301141   35301   71485   SHA100785   11180   47364   BCE101177   23242   59426   KPN301143   35302   71486   SHA100785   11180   47364   BCE101177   23242   59426   KPN301144   35303   71487   SHA100791   11181   47365   BCE101181   23243   59427   KPN301147   35304   71488   SHA100792   11182   47366   BCE101199   23244   59428   KPN301147   35304   71488   SHA100794   11183   47367   BCE101208   23245   59429   KPN301152   35306   71490   SHA100805   11184   47368   BCE101208   23246   59430   KPN301162   35307   71491   SHA100807   11185   47370   BCE101232   23248   59432   KPN301174   35309   71493   SHA100813   11187   47371   BCE101233   23249   59433   KPN301174   35309   71493   SHA100813   11188   47373   BCE101250   23250   59434   KPN301176   35310   71494   SHA100813   11189   47373   BCE101252   23251   59435   KPN301179   35312   71496   SHA100823   11190   47374   BCE101253   23252   59436   KPN301189   35313   71497   SHA100823   11191   47375   BCE101287   23254   59438   KPN301179   35315   71499   SHA100823   11194   47378   BCE101287   23255   59436   KPN301189   35317   71496   SHA100824   11194   47378   BCE101370   23256   59448   KPN301292   35318   71505   SHA100843   11196   47380   BCE101378   23256   59444   KPN301224   35319   71503   SHA100843   11196   47388   BCE101379   23256   59444   KPN301224   35320   71505   SHA100843   11196   47388   BCE101379   23256   59446   KPN301257   35320   71505   SHA100843   11204   47388   BCE101379   23256   59446   KPN301257   35320   71505   SHA100846   11200   47388   BCE101379   23256   59446   KPN301257   35320   71505   SHA100846   11200   47388   BCE101499   23266   59445   KPN301267   35327   71511   SHA100866   11207   47381   BCE101499    |       |           |   |       |         |              |       |         |              |
| 11176   47360   BCE101162   23238   59422   KPN301135   35299   71483   SHA100777   11177   47361   BCE101166   23239   59423   KPN301139   35300   71484   SHA100780   11178   47363   BCE101174   23240   59424   KPN301141   35301   71485   SHA100780   11179   47363   BCE101176   23241   59425   KPN301143   35302   71486   SHA100780   11181   47363   BCE101181   23243   59426   KPN301146   35303   71487   SHA100791   11181   47365   BCE101181   23243   59427   KPN301147   35304   71488   SHA100792   11182   47366   BCE101199   23244   59428   KPN301149   35305   71489   SHA100792   11184   47367   BCE101204   23245   59429   KPN301152   35306   71490   SHA100805   11184   47368   BCE101208   23246   59430   KPN301152   35307   71491   SHA100807   11185   47369   BCE101202   23247   59431   KPN301170   35308   71492   SHA100809   11186   47370   BCE101232   23248   59432   KPN301174   35309   71493   SHA100813   11187   47373   BCE101232   23248   59433   KPN301176   35310   71494   SHA100814   11188   47372   BCE101250   23250   59434   KPN301178   35311   71495   SHA100813   11189   47373   BCE101252   23251   59436   KPN301178   35311   71495   SHA100823   11190   47374   BCE101253   23252   59436   KPN301180   35313   71497   SHA100823   11192   47376   BCE101287   23253   59437   KPN301181   35314   71498   SHA100825   11192   47378   BCE101287   23254   59438   KPN301199   35315   71499   SHA100826   11193   47378   BCE101287   23255   59436   KPN301209   35317   71501   SHA100826   11194   47378   BCE101370   23255   59436   KPN301209   35317   71501   SHA100826   11194   47378   BCE101370   23255   59436   KPN301209   35317   71501   SHA100826   11194   47388   BCE101378   23256   59446   KPN3012209   35317   71501   SHA100846   11194   47388   BCE101378   23256   59446   KPN301226   35327   71504   SHA100846   11204   47388   BCE101378   23266   59446   KPN301226   35327   71504   SHA100868   11204   47388   BCE101378   23266   59446   KPN301266   35327   71501   SHA100866   11207   47388   BCE101469   | 11174 |           |   |       |         | 1            |       |         |              |
| 11177   47361   BCE101166   23239   59423   KPN301139   35300   71484   SHA100778   SHA100780   SHA100780   SHA100780   SHA100780   SHA100780   SHA100780   SHA100780   SHA100780   SHA100781   SHA100791   SHA100791   SHA100791   SHA100791   SHA100791   SHA100791   SHA100791   SHA100807   SHA100791   SHA100807   SHA100791   SHA100807   SHA100791   SHA100807   SHA1 |       |           |   |       |         |              |       |         |              |
| 11178  |       |           |   |       |         |              |       |         |              |
| 11179  |       |           |   |       |         |              |       |         |              |
| 11180  |       |           | i   |       |         |              |       |         |              |
| 11181  |       |           |   |       |         |              |       |         |              |
| 11182         47366         BCE101199         23244         59428         KPN301149         35305         71489         SHA100794           11183         47367         BCE101204         23245         59429         KPN301152         35306         71490         SHA100807           11185         47368         BCE101210         23247         59431         KPN301170         35308         71492         SHA100809           11186         47370         BCE101232         23248         59432         KPN301174         35309         71493         SHA100813           11187         47371         BCE101250         23250         59434         KPN301174         35309         71493         SHA100813           11189         47373         BCE101250         23250         59434         KPN301178         35311         71495         SHA100819           11190         47374         BCE101252         23251         59435         KPN301180         35313         71497         SHA100823           11191         47375         BCE101287         23253         59437         KPN301181         35313         71497         SHA100824           11192         47376         BCE101287         23254         59438  |       |           | L   |       |         |              |       |         |              |
| 11183         47367         BCE101204         23245         59429         KPN301152         35306         71490         SHA100805           11184         47368         BCE101210         23247         59431         KPN301162         35307         71491         SHA100809           11186         47370         BCE101232         23248         59432         KPN301174         35309         71493         SHA100813           11187         47371         BCE101233         23249         59432         KPN301176         35310         71494         SHA100813           11189         47371         BCE101252         23250         59434         KPN301178         35311         71495         SHA100819           11189         47373         BCE101252         23251         59435         KPN301179         35312         71496         SHA100823           11190         47374         BCE101253         23252         59436         KPN301180         35313         71497         SHA1008224           11191         47375         BCE101287         23254         59438         KPN301181         35314         71499         SHA100825           11192         47376         BCE101287         23254         59438 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>  |       |           |   |       |         |              |       |         |              |
| 11184         47368         BCE101208         23246         59430         KPN301162         35307         71491         SHA100807           11185         47369         BCE101210         23247         59431         KPN301170         35308         71492         SHA100809           11186         47370         BCE101232         23248         59432         KPN301174         35309         71493         SHA100813           11187         47371         BCE101233         23249         59433         KPN301176         35310         71494         SHA100814           11188         47372         BCE101250         23250         59434         KPN301179         35311         71495         SHA100819           11189         47374         BCE101253         23252         59436         KPN301180         35313         71497         SHA100824           1191         47376         BCE101287         23254         59438         KPN301199         35315         71499         SHA100825           1192         47376         BCE101287         23255         59438         KPN301207         35316         71509         SHA100825           1194         47378         BCE101347         23255         59440         KPN   |       |           |   |       |         |              |       |         |              |
| 11185         47369         BCE101210         23247         59431         KPN301170         35308         71492         SHA100809           11186         47370         BCE101232         23248         59432         KPN301174         35309         71493         SHA100813           11187         47371         BCE101250         23250         59434         KPN301176         35310         71494         SHA100814           11189         47373         BCE101252         23251         59436         KPN301179         35312         71496         SHA100823           11190         47374         BCE101253         23252         59436         KPN301180         35313         71497         SHA100823           11191         47375         BCE101287         23254         59438         KPN301180         35314         71498         SHA100825           11192         47376         BCE101287         23254         59438         KPN301181         35314         71498         SHA100825           11193         47377         BCE101292         23255         59439         KPN301207         35316         71500         SHA100825           11194         473789         BCE101317         23255         59440 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>  |       |           |   |       |         |              |       |         |              |
| 11186         47370         BCE101232         23248         59432         KPN301174         35309         71493         SHA100813           11187         47371         BCE101233         23249         59433         KPN301176         35310         71494         SHA100814           11189         47372         BCE101250         23250         59434         KPN301178         35311         71495         SHA100829           11189         47373         BCE101253         23251         59436         KPN301180         35313         71496         SHA100824           11191         47375         BCE101273         23253         59437         KPN301180         35315         71498         SHA100824           11191         47376         BCE101287         23254         59438         KPN301199         35315         71499         SHA100825           11194         47378         BCE101292         23255         59439         KPN301207         35316         71500         SHA100825           11194         47378         BCE101317         23256         59440         KPN301207         35316         71500         SHA100833           11195         47380         BCE101378         23257         59441  |       |           |   |       |         |              |       |         |              |
| 11187         47371         BCE101233         23249         59433         KPN301176         35310         71494         SHA100814           11188         47372         BCE101250         23250         59434         KPN301178         35311         71495         SHA100819           11189         47373         BCE101252         23251         59435         KPN301179         35312         71496         SHA100824           11191         47375         BCE101273         23252         59436         KPN301181         35314         71498         SHA100824           11191         47376         BCE101287         23254         59438         KPN3011207         35315         71499         SHA100826           11193         47377         BCE101372         23255         59438         KPN301207         35316         71500         SHA100826           11193         47377         BCE101347         23256         59440         KPN301207         35316         71500         SHA100833           11194         47380         BCE101347         23257         59441         KPN301224         35319         71503         SHA100834           11197         47381         BCE101378         23260         59442 <tk< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tk<>  |       |           |   |       |         |              |       |         |              |
| 11188         47372         BCE101250         23250         59434         KPN301178         35311         71495         SHA100819           11189         47373         BCE101252         23251         59435         KPN301179         35312         71496         SHA100823           11190         47374         BCE101273         23252         59436         KPN301180         35313         71497         SHA100824           11191         47375         BCE101287         23253         59437         KPN301181         35315         71498         SHA100825           11192         47376         BCE101287         23255         59438         KPN3011207         35316         71500         SHA100826           11193         47377         BCE101317         23256         59440         KPN301207         35316         71500         SHA100827           11194         47378         BCE101347         23257         59441         KPN301222         35318         71501         SHA100834           11195         47380         BCE101370         23258         59442         KPN301224         35319         71503         SHA100846           11197         47381         BCE101378         23260         59442 <tk< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tk<>  |       |           |   |       |         |              |       |         |              |
| 11189         47373         BCE101252         23251         59435         KPN301179         35312         71496         SHA100823           11190         47374         BCE101253         23252         59436         KPN301180         35313         71497         SHA100824           11191         47375         BCE101287         23253         59437         KPN301181         35314         71498         SHA100825           11192         47376         BCE101287         23254         59438         KPN301199         35315         71499         SHA100826           11193         47377         BCE101317         23256         59440         KPN301207         35316         71500         SHA100833           11194         47378         BCE101347         23257         59441         KPN301222         35318         71501         SHA100834           11196         47380         BCE101370         23258         59442         KPN301224         35319         71503         SHA100843           11197         47381         BCE101378         23260         59444         KPN301254         35321         71505         SHA100843           11199         47383         BCE101394         23262         59445  |       |           |   |       |         |              |       |         |              |
| 11190         47374         BCE101253         23252         59436         KPN301180         35313         71497         SHA100824           11191         47375         BCE101273         23253         59437         KPN301181         35314         71498         SHA100825           11192         47376         BCE101287         23254         59438         KPN301199         35315         71499         SHA100826           11194         47378         BCE101317         23256         59440         KPN301209         35317         71501         SHA100827           11194         47378         BCE101347         23257         59441         KPN301209         35318         71502         SHA100833           11196         47380         BCE101350         23258         59442         KPN301224         35319         71503         SHA100844           11197         47381         BCE101370         23259         59443         KPN301247         35320         71504         SHA100844           11198         47383         BCE101379         23260         59444         KPN301254         35321         71505         SHA100844           11198         47388         BCE101394         23262         59445  | •     |           | 1   |       |         |              |       |         |              |
| 11191         47375         BCE101273         23253         59437         KPN301181         35314         71498         SHA100825           11192         47376         BCE101287         23254         59438         KPN301199         35315         71499         SHA100826           11193         47377         BCE101317         23255         59439         KPN301207         35316         71500         SHA100827           11194         47378         BCE101347         23255         59440         KPN301209         35317         71501         SHA100833           11195         47379         BCE101370         23257         59441         KPN301222         35318         71502         SHA100834           11196         47380         BCE101370         23258         59442         KPN301224         35319         71503         SHA100844           11197         47381         BCE101378         23260         59444         KPN301254         35321         71505         SHA100845           11199         47383         BCE101394         23262         59446         KPN301257         35322         71506         SHA100846           1200         47384         BCE101494         23263         59445         K   |       |           |   |       |         |              |       |         |              |
| 11192         47376         BCE101287         23254         59438         KPN301199         35315         71499         SHA100826           11193         47377         BCE101292         23255         59439         KPN301207         35316         71500         SHA100827           11194         47378         BCE101317         23256         59440         KPN301209         35317         71501         SHA100833           11195         47379         BCE101347         23257         59441         KPN301222         35318         71502         SHA100833           11196         47380         BCE101350         23258         59442         KPN301224         35319         71503         SHA100843           11197         47381         BCE101370         23259         59443         KPN301224         35320         71504         SHA100844           11198         47382         BCE101378         23260         59444         KPN301254         35321         71505         SHA100845           11200         47384         BCE101394         23262         59446         KPN301257         35322         71506         SHA100846           11201         47385         BCE101396         23263         59447  |       |           |   |       |         |              |       |         |              |
| 11193 47377 BCE101292 23255 59439 KPN301207 35316 71500 SHA100827 11194 47378 BCE101317 23256 59440 KPN301209 35317 71501 SHA100833 11195 47379 BCE101347 23257 59441 KPN301222 35318 71502 SHA100834 11196 47380 BCE101350 23258 59442 KPN301224 35319 71503 SHA100843 11197 47381 BCE101370 23259 59443 KPN301247 35320 71504 SHA100844 11198 47382 BCE101378 23256 59444 KPN301254 35321 71505 SHA100845 11199 47383 BCE101393 23261 59445 KPN301254 35321 71505 SHA100846 11200 47384 BCE101394 23262 59446 KPN301257 35322 71506 SHA100848 11201 47385 BCE101396 23263 59447 KPN301258 35323 71507 SHA100848 11202 47386 BCE101419 23264 59448 KPN301260 35324 71508 SHA100850 11202 47388 BCE101468 23265 59449 KPN301265 35326 71510 SHA100854 11204 47388 BCE101466 23266 59450 KPN301265 35326 71510 SHA100854 11204 47389 BCE101468 23266 59450 KPN301269 35328 71512 SHA100863 11206 47390 BCE101479 23268 59451 KPN301269 35328 71512 SHA100866 11207 47391 BCE101499 23269 59451 KPN301278 35320 71514 SHA100868 11208 47392 BCE101525 23270 59454 KPN301280 35331 71515 SHA100868 11208 47392 BCE101526 23271 59455 KPN301280 35331 71515 SHA100868 11208 47394 BCE101546 23267 59451 KPN301280 35331 71515 SHA100868 11204 47394 BCE101537 23275 59456 KPN301295 35332 71516 SHA100888 11210 47394 BCE101546 23273 59457 KPN301299 35335 71516 SHA100889 11214 47395 BCE101546 23273 59457 KPN301299 35335 71519 SHA100898 11213 47397 BCE101562 23275 59458 KPN301299 35335 71519 SHA100898 11214 47398 BCE101565 23276 59459 KPN301301 35336 71520 SHA100899 11214 47398 BCE101565 23276 59459 KPN301301 35336 71520 SHA100899 11214 47398 BCE101565 23276 59459 KPN301301 35336 71520 SHA100899 11214 47398 BCE101565 23276 59459 KPN301301 35336 71520 SHA100899 11214 47398 BCE101565 23276 59450 KPN301302 35337 71521 SHA100899  |       |           | L   |       |         |              |       |         |              |
| 11194         47378         BCE101317         23256         59440         KPN301209         35317         71501         SHA100833           11195         47379         BCE101347         23257         59441         KPN301222         35318         71502         SHA100834           11196         47380         BCE101370         23258         59442         KPN301224         35319         71503         SHA100843           11197         47381         BCE101378         23259         59443         KPN301247         35320         71504         SHA100844           11198         47382         BCE101378         23260         59444         KPN301254         35321         71505         SHA100845           11199         47383         BCE101393         23261         59445         KPN301257         35322         71506         SHA100845           11200         47384         BCE101394         23262         59446         KPN301258         35323         71507         SHA100848           11201         47385         BCE101496         23263         59447         KPN301260         35324         71508         SHA100850           11202         47386         BCE101423         23265         59448  |       |           |   |       |         |              |       |         |              |
| 11195         47379         BCE101347         23257         59441         KPN301222         35318         71502         SHA100834           11196         47380         BCE101350         23258         59442         KPN301224         35319         71503         SHA100843           11197         47381         BCE101370         23259         59443         KPN301247         35320         71504         SHA100844           11198         47382         BCE101378         23260         59444         KPN301254         35321         71505         SHA100845           11199         47383         BCE101393         23261         59445         KPN301257         35322         71506         SHA100846           11200         47384         BCE101396         23262         59446         KPN301258         35323         71507         SHA100848           11201         47385         BCE101499         23264         59448         KPN301260         35324         71508         SHA100850           11202         47386         BCE101423         23265         59448         KPN301264         35325         71509         SHA100853           11204         47388         BCE101466         23266         59450  |       |           |   |       |         | 1            |       |         |              |
| 11196         47380         BCE101350         23258         59442         KPN301224         35319         71503         SHA100843           11197         47381         BCE101370         23259         59443         KPN301247         35320         71504         SHA100844           11198         47382         BCE101378         23260         59444         KPN301254         35321         71505         SHA100845           11199         47383         BCE101393         23261         59445         KPN301257         35322         71506         SHA100846           11200         47384         BCE101396         23263         59446         KPN301258         35323         71507         SHA100848           11201         47385         BCE101396         23263         59447         KPN301260         35324         71508         SHA100850           11202         47386         BCE101419         23264         59448         KPN301264         35325         71509         SHA100853           11204         47388         BCE101466         23266         59450         KPN301265         35326         71510         SHA100862           11205         47389         BCE101479         23268         59451  |       |           |   |       |         |              |       |         |              |
| 11197         47381         BCE101370         23259         59443         KPN301247         35320         71504         SHA100844           11198         47382         BCE101378         23260         59444         KPN301254         35321         71505         SHA100845           11199         47383         BCE101393         23261         59445         KPN301257         35322         71506         SHA100846           11200         47384         BCE101396         23262         59446         KPN301258         35323         71507         SHA100848           11201         47385         BCE101419         23264         59448         KPN301260         35324         71508         SHA100850           11202         47386         BCE101423         23265         59448         KPN301264         35325         71509         SHA100853           11204         47388         BCE101466         23266         59450         KPN301267         35327         71511         SHA100862           11205         47389         BCE101468         23267         59451         KPN301269         35328         71512         SHA100863           11206         47390         BCE101499         23268         59452  |       |           |   |       |         | 1            |       |         |              |
| 11198         47382         BCE101378         23260         59444         KPN301254         35321         71505         SHA100845           11199         47383         BCE101393         23261         59445         KPN301257         35322         71506         SHA100846           11200         47384         BCE101394         23262         59446         KPN301258         35323         71507         SHA100848           11201         47385         BCE101396         23263         59447         KPN301260         35324         71508         SHA100850           11202         47386         BCE101419         23264         59448         KPN301264         35325         71509         SHA100853           11203         47387         BCE101423         23265         59449         KPN301265         35326         71510         SHA100854           11204         47388         BCE101466         23266         59450         KPN301267         35327         71511         SHA100862           11205         47389         BCE101449         23268         59452         KPN301269         35328         71512         SHA100863           11206         47390         BCE101499         23269         59453  |       |           |   |       |         |              |       |         |              |
| 11199         47383         BCE101393         23261         59445         KPN301257         35322         71506         SHA100846           11200         47384         BCE101394         23262         59446         KPN301258         35323         71507         SHA100848           11201         47385         BCE101396         23263         59447         KPN301260         35324         71508         SHA100850           11202         47386         BCE101419         23264         59448         KPN301264         35325         71509         SHA100853           11203         47387         BCE101423         23265         59449         KPN301265         35326         71510         SHA100853           11204         47388         BCE101466         23266         59450         KPN301267         35327         71511         SHA100862           11205         47389         BCE101468         23267         59451         KPN301269         35328         71512         SHA100863           11206         47390         BCE101479         23268         59452         KPN301276         35329         71513         SHA100866           11207         47391         BCE101525         23270         59453  |       |           |   |       |         |              |       |         |              |
| 11200         47384         BCE101394         23262         59446         KPN301258         35323         71507         SHA100848           11201         47385         BCE101396         23263         59447         KPN301260         35324         71508         SHA100850           11202         47386         BCE101419         23264         59448         KPN301264         35325         71509         SHA100853           11203         47387         BCE101423         23265         59449         KPN301265         35326         71510         SHA100854           11204         47388         BCE101466         23266         59450         KPN301267         35327         71511         SHA100862           11205         47389         BCE101468         23267         59451         KPN301269         35328         71512         SHA100863           11206         47390         BCE101479         23268         59452         KPN301276         35329         71513         SHA100866           11207         47391         BCE101499         23269         59453         KPN301278         35330         71514         SHA100868           11208         47392         BCE101526         23271         59454  |       |           |   |       |         |              |       |         |              |
| 11201         47385         BCE101396         23263         59447         KPN301260         35324         71508         SHA100850           11202         47386         BCE101419         23264         59448         KPN301264         35325         71509         SHA100853           11203         47387         BCE101423         23265         59449         KPN301265         35326         71510         SHA100854           11204         47388         BCE101466         23266         59450         KPN301267         35327         71511         SHA100862           11205         47389         BCE101468         23267         59451         KPN301269         35328         71512         SHA100863           11206         47390         BCE101479         23268         59452         KPN301276         35329         71513         SHA100866           11207         47391         BCE101499         23269         59453         KPN301278         35330         71514         SHA100868           11208         47392         BCE101525         23270         59454         KPN301280         35331         71515         SHA100874           11209         47393         BCE101537         23272         59456  |       |           | T. C. |       |         | 1            |       |         |              |
| 11202         47386         BCE101419         23264         59448         KPN301264         35325         71509         SHA100853           11203         47387         BCE101423         23265         59449         KPN301265         35326         71510         SHA100854           11204         47388         BCE101466         23266         59450         KPN301267         35327         71511         SHA100862           11205         47389         BCE101468         23267         59451         KPN301269         35328         71512         SHA100863           11206         47390         BCE101479         23268         59452         KPN301276         35329         71513         SHA100866           11207         47391         BCE101499         23269         59453         KPN301278         35330         71514         SHA100868           11208         47392         BCE101525         23270         59454         KPN301280         35331         71515         SHA100874           11209         47393         BCE101526         23271         59455         KPN301295         35332         71516         SHA100898           11211         47395         BCE101546         23273         59457  |       |           |   |       |         |              |       |         |              |
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| 11204       47388       BCE101466       23266       59450       KPN301267       35327       71511       SHA100862         11205       47389       BCE101468       23267       59451       KPN301269       35328       71512       SHA100863         11206       47390       BCE101479       23268       59452       KPN301276       35329       71513       SHA100866         11207       47391       BCE101499       23269       59453       KPN301278       35330       71514       SHA100868         11208       47392       BCE101525       23270       59454       KPN301280       35331       71515       SHA100874         11209       47393       BCE101526       23271       59455       KPN301295       35332       71516       SHA100888         11210       47394       BCE101537       23272       59456       KPN301296       35333       71517       SHA100894         11211       47395       BCE101546       23273       59457       KPN301297       35334       71518       SHA100895         11212       47396       BCE101562       23274       59458       KPN301301       35335       71519       SHA100899         11214       47398  |       |           |   |       |         | I.           |       |         |              |
| 11205       47389       BCE101468       23267       59451       KPN301269       35328       71512       SHA100863         11206       47390       BCE101479       23268       59452       KPN301276       35329       71513       SHA100866         11207       47391       BCE101499       23269       59453       KPN301278       35330       71514       SHA100868         11208       47392       BCE101525       23270       59454       KPN301280       35331       71515       SHA100874         11209       47393       BCE101526       23271       59455       KPN301295       35332       71516       SHA100888         11210       47394       BCE101537       23272       59456       KPN301296       35333       71517       SHA100894         11211       47395       BCE101546       23273       59457       KPN301297       35334       71518       SHA100895         11212       47396       BCE101547       23274       59458       KPN301299       35335       71519       SHA100898         11213       47397       BCE101562       23275       59459       KPN301301       35336       71521       SHA100992         11214       47398  |       |           |   |       | 1       |              |       |         |              |
| 11206       47390       BCE101479       23268       59452       KPN301276       35329       71513       SHA100866         11207       47391       BCE101499       23269       59453       KPN301278       35330       71514       SHA100868         11208       47392       BCE101525       23270       59454       KPN301280       35331       71515       SHA100874         11209       47393       BCE101526       23271       59455       KPN301295       35332       71516       SHA100888         11210       47394       BCE101537       23272       59456       KPN301296       35333       71517       SHA100894         11211       47395       BCE101546       23273       59457       KPN301297       35334       71518       SHA100895         11212       47396       BCE101547       23274       59458       KPN301299       35335       71519       SHA100898         11213       47397       BCE101562       23275       59459       KPN301301       35336       71520       SHA100899         11214       47398       BCE101565       23276       59460       KPN301302       35337       71521       SHA100902  |       |           |   |       |         |              |       |         |              |
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| 11210       47394       BCE101537       23272       59456       KPN301296       35333       71517       SHA100894         11211       47395       BCE101546       23273       59457       KPN301297       35334       71518       SHA100895         11212       47396       BCE101547       23274       59458       KPN301299       35335       71519       SHA100898         11213       47397       BCE101562       23275       59459       KPN301301       35336       71520       SHA100899         11214       47398       BCE101565       23276       59460       KPN301302       35337       71521       SHA100902  |       |           |   |       |         |              |       |         |              |
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| 11214 47398 BCE101565 23276 59460 KPN301302 35337 71521 SHA100902  |       |           |   |       |         |              |       |         |              |
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|  | *     |           |   |       |         |              |       |         |              |

| $\mathbf{wo}$ 0 | 02/077183 |   |   |   |         |   |       |   |     |         | PCT/U | JS0 | 2/091 | 07 |  |
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|                 |           | ~ | _ | 1 | 733.T.I | ~ | <br>~ | - | - I | 753.7.4 | ъ.    |     | α.    | -  |  |

| WU    | 12/0 / / 183   | _                      |       |         |              |       | PC 1/USU | 2/0910/                |
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|       |                | •                      |       |         | •            |       |          |                        |

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| 11316          | 47500          | BCE103286              | 23378          | 59562          | KPN301786              | 35439 | 71623          | SHA101225    |
| 11317          | 47501          | BCE103292              | 23379          | 59563          | KPN301790              | 35440 | 71624          | SHA101234    |
| 11318          | 47502          | BCE103299              | 23380          | 59564          | KPN301793              | 35441 | 71625          | SHA101238    |
| 11319          | 47503          | BCE103310              | 23381          | 59565          | KPN301795              | 35442 | 71626          | SHA101242    |
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| 11343          | 7/307          | DCD:103313             | 45507          | 393/1          | VLIA201913             | 35448 | /1032          | SHA101277    |

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| DNA            | Protein        | Gene LocusID           | DNA            | Protein                    | Gene LocusID           | DNA            | Protein | Gene LocusID           |
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| 11347          | 47531          | BCE103775              | 23409          | 59593                      | KPN301886              | 35470          | 71654   | SHA101345              |
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|                |                  | •                      |                |                  | •                      |                |                  |                        |

| wo (           | 02/077183              |                        |                |                            |                        |                | PCT/US0        | 2/09107  |
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|                | 47630                  | BCE105508              |                |                            | KPN302317              |                |                | A Committee of the Comm |
| 11447<br>11448 | 47631                  | BCE105510<br>BCE105517 | 23509          | 59693                      |                        | 35570          | 71754          | SHA101633  |
|                | 47632                  |                        | 23510          | 59694                      | KPN302321<br>KPN302322 | 35571          | 71755          | SHA101634  |
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| 11452          | 47636                  | BCE105560<br>BCE105570 | 23514          | 59698<br>59699             | KPN302345              | 35576          | 71759<br>71760 | SHA101640<br>SHA101643   |
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| woo            | 2/077183       |                        |                |                            |                        |                | PCT/US         | 02/09107               |
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| 11506          | 47690          | BCE106341              | 23568          | 59752                      | KPN302594              | 35629          | 71813          | SHA101838              |
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|                |                | 1                      | ,              | 00,01                      |                        | 22300          |                |                        |

| WO (         | 02/077183        |              |              |                  |              |              | PCT/US           | 02/09107     |
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| WU     | 12/0 / / 183               |                        |       |                   |                        |                | PC1/US0        | 12/0910/               |
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| DNA    | Protein                    | Gene LocusID           | DNA   | Protein           | Gene LocusID           | DNA            | Protein        | Gene LocusID           |
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| 11621  | 47805                      | BCE108109              | 23683 | 59867             | KPN303306              | 35744          | 71928          | SHA102380              |
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| 11654  | 47837<br>47838             | BCE108826<br>BCE108874 | 23715 | 59899<br>59900    | KPN303429<br>KPN303432 | 35776<br>35777 | 71960          | SHA102676              |
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| 11000  | サノロンフ                      | DODINGOON              | 43/1/ | 59901             | KPN303442              | 35778          | 71962          | SHA102688              |

| DNA SeqID         Protein SeqID         Gene LocusID SeqID         DNA SeqID         Protein SeqID         DNA SeqID         Protein SeqID         Gene LocusID SeqID         SeqID         Protein SeqID         Gene LocusID SeqID         SeqID         Protein SeqID         Gene LocusID SeqID         SeqID         Protein SeqID         Gene LocusID SeqID         SeqID         SeqID         Protein SeqID         Gene LocusID SeqID                                   | wo    | 02/077183 |              |       |       |              |       | PCT/US | 02/09107     |
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| 11665         47849         BCE109062         23727         59911         KPN303481         35788         71972         SHA102804           11666         47850         BCE109097         23728         59912         KPN303484         35789         71973         SHA102806           11667         47851         BCE109104         23729         59913         KPN303485         35790         71974         SHA102814           11668         47852         BCE109138         23730         59914         KPN303487         35791         71975         SHA102823           11669         47853         BCE109200         23731         59915         KPN303489         35792         71976         SHA102824           11670         47854         BCE109201         23732         59916         KPN303490         35793         71977         SHA102842           11671         47855         BCE109231         23733         59917         KPN303509         35794         71978         SHA102843           11672         47856         BCE109235         23734         59918         KPN303511         35795         71979         SHA102846           11673         47857         BCE109252         23736         59920  |       |           |              | 23726 | 59910 | KPN303478    | 35787 | 71971  | SHA102781    |
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| 11684 47868 BCE109401 23746 59930 KPN303559 35807 71991 SHA103018  | 11684 |           |              |       |       |              |       |        |              |
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|              |                |

| DNA            | Protein        | Gene LocusID           | DNA   | Protein        | Gene LocusID | DNA            | Protein        | Gene LocusID           |
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| 11771          | 47955            | BCE110618              | 23833          | 60017            | KPN304208              | 35894          | 72078            | SMU100183              |
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| 11797          | 47981            | BCE111113              | 23859          | 60043            | KPN304436              | 35920          | 72104            | SMU100300              |
| 11798          | 47982            | BCE111148              | 23860          | 60044            | KPN304448              | 35921          | 72105            | SMU100302              |
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| 11881  |      |             |              |       |       |              |       |         |              |
| 11882   48066   BCE112641   23944   60128   KPN305144   36005   72189   SMU100545  |      |             |              |       |       |              |       |         |              |
| 11883  |      |             | *            |       |       | ľ            |       |         |              |
| 11884   48068   BCE112661   23946   60130   KPN305146   36007   72191   SMU100549   11886   48070   BCE112681   23948   60132   KPN305161   36008   72193   SMU100552   11887   48071   BCE112702   23949   60133   KPN305163   36010   72194   SMU100552   11888   48072   BCE112712   23950   60134   KPN305176   36011   72195   SMU100555   11890   48074   BCE112712   23951   60135   KPN305177   36012   72195   SMU100555   11890   48074   BCE112792   23952   60136   KPN305177   36012   72196   SMU100556   11891   48075   BCE112767   23955   60134   KPN305201   36013   72197   SMU100562   11891   48075   BCE112767   23955   60134   KPN305262   36014   72198   SMU100576   11892   48076   BCE112767   23955   60139   KPN305262   36016   72200   SMU100578   11894   48078   BCE112795   23956   60140   KPN305265   36016   72200   SMU100578   11894   48078   BCE112795   23957   60141   KPN305265   36016   72200   SMU100578   11894   48078   BCE112795   23957   60141   KPN305280   36018   72200   SMU100581   11897   48081   BCE112882   23958   60142   KPN305282   36019   72203   SMU100584   11897   48081   BCE112882   23958   60144   KPN305296   36021   72203   SMU100588   11897   48083   BCE112881   23966   60144   KPN305296   36021   72203   SMU100588   11899   48083   BCE112884   23962   60144   KPN305392   36022   72204   SMU100589   11904   48085   BCE112884   23962   60144   KPN305392   36024   72208   SMU100599   11904   48085   BCE112884   23962   60146   KPN305504   36023   72207   SMU100599   11904   48086   BCE112884   23962   60146   KPN305504   36023   72207   SMU100599   11904   48086   BCE112934   23966   60149   KPN305504   36026   72210   SMU100599   11904   48086   BCE112934   23966   60149   KPN305504   36026   72210   SMU100599   11905   48089   BCE112934   23966   60149   KPN305504   36026   72210   SMU100600   11906   48094   BCE113026   23976   60145   KPN305506   36027   72211   SMU100600   11906   48094   BCE113026   23976   60145   KPN305506   36027   72211   SMU100600   11906   48094   BCE113026    |      |             |              |       |       | KPN305145    | 36006 | 72190   | SMU100546    |
| 11886  |      |             | BCE112661    | 23946 | 60130 | KPN305146    | 36007 | 72191   | SMU100547    |
| 11887   48072   BCE112705   23949   60134   KPN305163   36010   72194   SMU100555  | 118  | 35 48069    | BCE112663    | 23947 | 60131 | KPN305150    | 36008 | 72192   | SMU100549    |
| 11888  | 118  | 36 48070    | BCE112681    | 23948 | 60132 | KPN305161    | 36009 | 72193   | SMU100552    |
| 11889  | 118  | 37 48071    | BCE112705    | 23949 | 60133 | KPN305163    | 36010 | 72194   | SMU100553    |
| 11890  | 118  | 38 48072    | BCE112712    | 23950 | 60134 | KPN305176    | 36011 | 72195   | SMU100555    |
| 11891  | 118  | 89 48073    | BCE112713    | 23951 | 60135 | KPN305177    | 36012 | 72196   | SMU100556    |
| 11892  | 1189 | 90 48074    | BCE112720    | 23952 | 60136 | KPN305190    | 36013 | 72197   |              |
| 11893  | 1189 | 91 48075    | BCE112739    | 23953 | 60137 | KPN305221    | 36014 | 72198   | SMU100576    |
| 11894         48078         BCE112795         23957         60140         KPN3052280         36018         72201         SMU100S83           11895         48079         BCE112795         23957         60141         KPN305282         36019         72202         SMU100S86           11897         48081         BCE112820         23959         60143         KPN305294         36020         72204         SMU100S87           11899         48082         BCE112831         23960         60144         KPN305296         36021         72205         SMU100S87           11899         48083         BCE112884         23961         60145         KPN305315         36022         72206         SMU100S90           11900         48084         BCE112887         23963         60147         KPN305349         36023         72207         SMU100S92           11901         48086         BCE112981         23966         60148         KPN305504         36025         72210         SMU100S91           11903         48087         BCE112991         23966         60150         KPN305504         36025         72210         SMU100599           11903         48089         BCE112943         23966         60150 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>  |      |             |              |       |       |              |       |         |              |
| 11895  |      |             |              |       |       |              |       |         |              |
| 11896  |      |             |              |       |       |              |       |         |              |
| 11897   48081   BCE112820   23959   60143   KPN305294   36020   72204   SMU100587   11898   48082   BCE1128631   23960   60144   KPN305295   36021   72205   SMU1100580   11900   48084   BCE112884   23961   60145   KPN305314   36022   72206   SMU1100590   11900   48084   BCE112884   23962   60146   KPN305314   36023   72207   SMU100590   11901   48085   BCE112887   23963   60147   KPN305392   36024   72208   SMU100590   11902   48086   BCE112892   23964   60148   KPN305499   36025   72209   SMU100597   11903   48087   BCE112921   23965   60149   KPN305504   36026   72210   SMU100598   11904   48088   BCE112921   23965   60149   KPN305506   36027   72211   SMU100599   11905   48089   BCE112934   23967   60151   KPN305506   36027   72211   SMU100590   11906   48090   BCE112943   23966   60150   KPN305506   36027   72213   SMU100600   11907   48091   BCE112960   23969   60153   KPN305541   36030   72214   SMU100601   11907   48093   BCE112960   23969   60153   KPN305544   36031   72215   SMU100603   11909   48093   BCE113024   23971   60155   KPN305564   36033   72216   SMU100603   11910   48094   BCE113026   23972   60156   KPN305564   36033   72217   SMU100605   11911   48095   BCE113086   23974   60158   KPN305564   36033   72218   SMU100606   11912   48099   BCE113092   23975   60159   KPN305684   36035   72219   SMU100607   11913   48097   BCE113092   23975   60159   KPN305684   36035   72220   SMU100608   11914   48098   BCE113129   23976   60160   KPN305688   36037   72221   SMU100607   11916   48100   BCE113179   23978   60162   KPN305737   36040   72222   SMU100611   11917   48101   BCE113237   23980   60164   KPN305787   36040   72222   SMU100612   11918   48102   BCE113227   23980   60164   KPN305787   36044   72222   SMU100616   11920   48104   BCE113237   23985   60169   KPN305787   36044   72222   SMU100616   11920   48104   BCE113237   23985   60169   KPN305785   36045   72223   SMU100612   11924   48105   BCE113329   23986   60170   KPN305795   36046   72230   SMU100627   11924   48108   BCE113329 |      |             | i i          |       |       |              |       |         |              |
| 11898  |      |             |              |       |       | 1            |       |         |              |
| 11899  |      |             |              |       |       | í            |       |         |              |
| 11900  |      |             | 1            |       |       |              |       |         |              |
| 11901  |      |             |              |       |       |              |       |         |              |
| 11902  |      |             |              |       |       |              |       |         |              |
| 11903  |      |             | 1            |       |       |              |       |         |              |
| 11904  |      |             |              |       |       | •            |       |         |              |
| 11905 48089 BCE112934 23967 60151 KPN305521 36028 72212 SMU100600 11906 48090 BCE112943 23968 60152 KPN305530 36029 72213 SMU100601 11907 48091 BCE112960 23969 60153 KPN305541 36030 72214 SMU100602 11908 48092 BCE112972 23970 60154 KPN305544 36031 72215 SMU100603 11909 48093 BCE113024 23971 60155 KPN305556 36032 72216 SMU100604 11910 48094 BCE113026 23972 60156 KPN305564 36033 72217 SMU100605 11911 48095 BCE113044 23973 60157 KPN305564 36033 72217 SMU100605 11912 48096 BCE113086 23974 60158 KPN305564 36033 72217 SMU100606 11912 48096 BCE113082 23975 60159 KPN305601 36034 72218 SMU100606 11912 48099 BCE113128 23976 60159 KPN305684 36035 72219 SMU100608 11914 48098 BCE113128 23976 60160 KPN305684 36036 72220 SMU100608 11915 48099 BCE113179 23977 60161 KPN305686 36038 72222 SMU100609 11915 48100 BCE113197 23978 60162 KPN305696 36038 72222 SMU100610 11916 48100 BCE113217 23978 60162 KPN305737 36040 72224 SMU100611 11918 48102 BCE113227 23980 60164 KPN305773 36040 72224 SMU100613 11919 48103 BCE113217 23980 60164 KPN305778 36040 72224 SMU100613 11919 48103 BCE113237 23981 60165 KPN305761 36042 72226 SMU100613 11920 48104 BCE113271 23982 60166 KPN305776 36043 72227 SMU100618 11921 48105 BCE113297 23985 60169 KPN305776 36043 72227 SMU100618 11922 48106 BCE113297 23985 60169 KPN305776 36045 72229 SMU100625 11923 48107 BCE113297 23985 60169 KPN305789 36045 72229 SMU100625 11923 48107 BCE113297 23985 60169 KPN305795 36046 72230 SMU100627 11924 48108 BCE113297 23985 60169 KPN305795 36046 72230 SMU100627 11924 48108 BCE113297 23985 60169 KPN305795 36046 72230 SMU100627 11924 48108 BCE113308 23987 60171 KPN305802 36047 72231 SMU100624 11926 48110 BCE113319 23988 60172 KPN305892 36049 72233 SMU100642 11926 48110 BCE113335 23990 60174 KPN305986 36051 72234 SMU100644 11929 48113 BCE113335 23990 60174 KPN305968 36050 72234 SMU100644 11929 48113 BCE113336 23991 60175 KPN305976 36052 72236 SMU100645  |      |             |              |       |       | 1            |       |         |              |
| 11906 48090 BCE112943 23968 60152 KPN305530 36029 72213 SMU100601 11907 48091 BCE112960 23969 60153 KPN305541 36030 72214 SMU100602 11908 48092 BCE112972 23970 60154 KPN3055544 36031 72215 SMU100603 11909 48093 BCE113026 23972 60156 KPN305556 36032 72216 SMU100604 11910 48094 BCE113026 23972 60156 KPN305564 36033 72217 SMU100605 11911 48095 BCE113044 23973 60157 KPN305601 36034 72218 SMU100606 11912 48096 BCE113086 23974 60158 KPN305601 36034 72218 SMU100606 11912 48096 BCE113086 23974 60158 KPN305645 36035 72219 SMU100607 11913 48097 BCE113092 23975 60159 KPN305684 36036 72220 SMU100608 11914 48098 BCE113128 23976 60160 KPN305688 36037 72221 SMU100609 11915 48099 BCE113179 23977 60161 KPN305696 36038 72222 SMU100610 11916 48100 BCE113197 23978 60162 KPN305713 36039 72223 SMU100611 11917 48101 BCE113211 23979 60163 KPN305737 36040 72224 SMU100612 11918 48102 BCE113227 23980 60164 KPN305748 36041 72225 SMU100612 11918 48103 BCE113237 23981 60165 KPN305761 36042 72226 SMU100613 11910 48104 BCE113271 23982 60166 KPN305776 36043 72227 SMU100618 11920 48104 BCE113273 23983 60167 KPN305781 36044 72228 SMU100616 11920 48104 BCE113273 23983 60167 KPN305781 36044 72228 SMU100616 11920 48104 BCE113273 23983 60167 KPN305781 36044 72228 SMU100612 11924 48106 BCE113273 23983 60167 KPN305789 36045 72229 SMU100625 11923 48107 BCE113297 23985 60169 KPN305789 36045 72229 SMU100625 11923 48107 BCE113298 23986 60170 KPN305789 36045 72229 SMU100625 11924 48108 BCE113298 23986 60170 KPN305802 36047 72231 SMU100628 11925 48109 BCE113308 23987 60171 KPN305802 36047 72231 SMU100628 11925 48109 BCE113308 23987 60171 KPN305802 36049 72233 SMU100644 11928 48111 BCE113335 23990 60174 KPN305990 36050 72234 SMU100644 11929 48113 BCE113335 23990 60174 KPN305976 36052 72236 SMU100644 11929 48113 BCE113336 23991 60175 KPN305976 36052 72236 SMU100645   |      |             |              |       |       |              |       |         |              |
| 11907         48091         BCE112960         23969         60153         KPN305541         36030         72214         SMU100602           11908         48092         BCE112972         23970         60154         KPN305544         36031         72215         SMU100603           11909         48093         BCE113024         23971         60155         KPN305566         36032         72216         SMU100604           11910         48094         BCE113044         23973         60157         KPN305564         36033         72217         SMU100605           11911         48095         BCE113086         23974         60158         KPN305645         36035         72219         SMU100606           11912         48096         BCE113082         23975         60159         KPN305684         36035         72219         SMU100607           11913         48097         BCE113128         23976         60160         KPN305684         36036         72220         SMU100608           11914         48098         BCE113172         23976         60161         KPN305688         36037         72221         SMU100610           11916         48100         BCE113179         23978         60162  |      |             |              |       |       |              |       |         |              |
| 11908 48092 BCE112972 23970 60154 KPN305544 36031 72215 SMU100603 11909 48093 BCE113024 23971 60155 KPN305556 36032 72216 SMU100604 11910 48094 BCE113026 23972 60156 KPN305564 36033 72217 SMU100605 11911 48095 BCE113044 23973 60157 KPN305601 36034 72218 SMU100606 11912 48096 BCE113086 23974 60158 KPN305645 36035 72219 SMU100607 11913 48097 BCE113092 23975 60159 KPN305684 36036 72220 SMU100607 11915 48099 BCE113128 23976 60160 KPN305684 36036 72220 SMU100609 11915 48099 BCE113179 23977 60161 KPN305696 36038 72222 SMU100609 11916 48100 BCE113197 23978 60162 KPN305696 36038 72222 SMU100610 11916 48100 BCE113211 23979 60163 KPN305713 36039 72223 SMU100611 11917 48101 BCE113211 23979 60163 KPN305737 36040 72224 SMU100612 11918 48102 BCE113227 23980 60164 KPN305737 36040 72224 SMU100612 11918 48102 BCE113227 23980 60164 KPN305748 36041 72225 SMU100613 11920 48104 BCE113271 23982 60165 KPN305761 36042 72226 SMU100616 11920 48104 BCE113271 23982 60166 KPN305776 36043 72227 SMU100618 11921 48105 BCE113273 23983 60167 KPN305781 36044 72228 SMU100618 11921 48105 BCE113281 23984 60168 KPN305789 36045 72229 SMU100622 11922 48106 BCE113281 23984 60168 KPN305789 36045 72229 SMU100625 11923 48107 BCE113297 23985 60169 KPN305789 36045 72229 SMU100625 11923 48107 BCE113298 23986 60170 KPN305802 36047 72231 SMU100628 11925 48109 BCE113320 23988 60172 KPN305829 36049 72231 SMU100628 11925 48109 BCE113330 23988 60172 KPN305829 36049 72233 SMU100634 11926 48110 BCE113319 23988 60172 KPN305829 36049 72233 SMU100634 11927 48111 BCE113330 23989 60173 KPN305968 36051 72234 SMU100644 11929 48113 BCE113335 23990 60174 KPN305968 36051 72235 SMU100644 11929 48113 BCE113336 23991 60175 KPN305976 36052 72236 SMU100645  |      |             |              |       |       |              |       |         |              |
| 11909 48093 BCE113024 23971 60155 KPN305556 36032 72216 SMU100604 11910 48094 BCE113026 23972 60156 KPN305564 36033 72217 SMU100605 11911 48095 BCE113044 23973 60157 KPN305601 36034 72218 SMU100606 11912 48096 BCE113086 23974 60158 KPN305645 36035 72219 SMU100607 11913 48097 BCE113092 23975 60159 KPN305684 36036 72220 SMU100608 11914 48098 BCE113128 23976 60160 KPN305688 36036 72220 SMU100608 11915 48099 BCE113179 23976 60160 KPN305688 36037 72221 SMU100609 11915 48099 BCE113179 23977 60161 KPN305696 36038 72222 SMU100610 11916 48100 BCE113197 23978 60162 KPN305713 36039 72223 SMU100610 11917 48101 BCE113211 23979 60163 KPN305737 36040 72224 SMU100612 11918 48102 BCE113227 23980 60164 KPN305748 36041 72225 SMU100613 11919 48103 BCE113237 23981 60165 KPN305761 36042 72226 SMU100616 11920 48104 BCE113271 23982 60166 KPN305776 36043 72227 SMU100618 11921 48105 BCE113273 23983 60167 KPN305776 36043 72227 SMU100618 11921 48105 BCE113281 23984 60168 KPN305781 36044 72228 SMU100618 11922 48106 BCE113281 23984 60168 KPN305789 36045 72229 SMU100622 11922 48106 BCE113281 23984 60168 KPN305789 36045 72229 SMU100622 11924 48108 BCE113297 23985 60169 KPN305795 36046 72230 SMU100627 11924 48108 BCE113298 23986 60170 KPN305795 36046 72230 SMU100627 11924 48108 BCE113329 23988 60170 KPN305822 36047 72231 SMU100628 11925 48109 BCE113329 23988 60170 KPN305829 36049 72233 SMU100624 11927 48111 BCE113320 23988 60172 KPN305829 36049 72233 SMU100640 11927 48111 BCE113335 23989 60173 KPN305930 36050 72234 SMU100644 11929 48113 BCE113336 23990 60174 KPN305968 36051 72235 SMU100644 11929 48113 BCE113336 23991 60175 KPN305976 36052 72236 SMU100644 11929 48113 BCE113336 23991 60175 KPN305976 36052 72236 SMU100645  |      |             |              |       |       |              |       |         |              |
| 11910         48094         BCE113026         23972         60156         KPN305564         36033         72217         SMU100605           11911         48095         BCE113044         23973         60157         KPN305601         36034         72218         SMU100606           11912         48096         BCE113086         23974         60158         KPN305645         36035         72219         SMU100607           11913         48097         BCE113128         23976         60159         KPN305684         36036         72220         SMU100608           11914         48098         BCE113179         23977         60161         KPN305688         36037         72221         SMU100610           11916         48100         BCE113197         23978         60162         KPN305713         36039         72223         SMU100610           11917         48101         BCE113221         23978         60162         KPN305737         36040         72224         SMU100612           11918         48102         BCE113227         23980         60164         KPN305748         36041         72225         SMU100613           11920         48104         BCE113273         23982         60166  |      |             |              |       |       |              |       |         |              |
| 11911       48095       BCE113044       23973       60157       KPN305601       36034       72218       SMU100606         11912       48096       BCE113086       23974       60158       KPN305645       36035       72219       SMU100607         11913       48097       BCE113092       23975       60159       KPN305684       36036       72220       SMU100608         11914       48098       BCE113179       23976       60160       KPN305688       36037       72221       SMU100609         11915       48099       BCE113197       23978       60161       KPN305696       36038       72222       SMU100610         11916       48100       BCE113211       23979       60163       KPN305773       36040       72224       SMU100611         11918       48102       BCE113227       23980       60164       KPN305781       36040       72225       SMU100613         11919       48103       BCE113271       23982       60166       KPN305761       36042       72226       SMU100616         11920       48104       BCE113281       23983       60166       KPN305781       36044       72228       SMU100620         11922       48106  |      |             |              |       |       |              |       |         |              |
| 11912       48096       BCE113086       23974       60158       KPN305645       36035       72219       SMU100607         11913       48097       BCE113092       23975       60159       KPN305684       36036       72220       SMU100608         11914       48098       BCE113128       23976       60160       KPN305688       36037       72221       SMU100609         11915       48099       BCE113179       23977       60161       KPN305696       36038       72222       SMU100610         11916       48100       BCE113121       23978       60162       KPN305737       36040       72224       SMU100611         11917       48101       BCE113227       23980       60164       KPN305737       36040       72224       SMU100612         11918       48102       BCE113227       23980       60164       KPN305761       36042       72226       SMU100613         11919       48103       BCE1132271       23982       60166       KPN3057761       36042       72226       SMU100616         11920       48104       BCE113281       23983       60167       KPN305781       36044       72228       SMU100622         11922       48106  |      |             | B            |       |       |              |       |         |              |
| 11913 48097 BCE113092 23975 60159 KPN305684 36036 72220 SMU100608 11914 48098 BCE113128 23976 60160 KPN305688 36037 72221 SMU100609 11915 48099 BCE113179 23977 60161 KPN305696 36038 72222 SMU100610 11916 48100 BCE113197 23978 60162 KPN305713 36039 72223 SMU100611 11917 48101 BCE113211 23979 60163 KPN305737 36040 72224 SMU100612 11918 48102 BCE113227 23980 60164 KPN305748 36041 72225 SMU100613 11919 48103 BCE113237 23981 60165 KPN305761 36042 72226 SMU100616 11920 48104 BCE113271 23982 60166 KPN305761 36042 72226 SMU100618 11921 48105 BCE113273 23983 60167 KPN305781 36044 72228 SMU100618 11922 48106 BCE113281 23984 60168 KPN305789 36045 72229 SMU100622 11923 48107 BCE113297 23985 60169 KPN305795 36046 72230 SMU100627 11924 48108 BCE113298 23986 60170 KPN305802 36047 72231 SMU100628 11925 48109 BCE113308 23987 60171 KPN305802 36048 72232 SMU100628 11926 48110 BCE113319 23988 60172 KPN305829 36049 72233 SMU100624 11926 48110 BCE113319 23988 60172 KPN305829 36049 72233 SMU100640 11927 48111 BCE113320 23989 60173 KPN305930 36050 72234 SMU100644 11928 48112 BCE113335 23990 60174 KPN305968 36051 72235 SMU100644 11929 48113 BCE113336 23991 60175 KPN305976 36052 72236 SMU100645  |      |             | 4            |       |       |              |       |         |              |
| 11914       48098       BCE113128       23976       60160       KPN305688       36037       72221       SMU100609         11915       48099       BCE113179       23977       60161       KPN305696       36038       72222       SMU100610         11916       48100       BCE113197       23978       60162       KPN305713       36039       72223       SMU100611         11917       48101       BCE113221       23979       60163       KPN305737       36040       72224       SMU100612         11918       48102       BCE113227       23980       60164       KPN305748       36041       72225       SMU100613         11919       48103       BCE113237       23981       60165       KPN305761       36042       72226       SMU100616         11920       48104       BCE113271       23982       60166       KPN305776       36043       72227       SMU100618         11921       48105       BCE113273       23983       60167       KPN305781       36044       72228       SMU100622         11923       48106       BCE113281       23984       60168       KPN305795       36045       72229       SMU100625         11924       48108  |      |             | 1            |       |       |              |       |         | •            |
| 11915       48099       BCE113179       23977       60161       KPN305696       36038       72222       SMU100610         11916       48100       BCE113197       23978       60162       KPN305713       36039       72223       SMU100611         11917       48101       BCE113211       23979       60163       KPN305737       36040       72224       SMU100612         11918       48102       BCE113227       23980       60164       KPN305748       36041       72225       SMU100613         11919       48103       BCE113237       23981       60165       KPN305761       36042       72226       SMU100616         11920       48104       BCE113271       23982       60166       KPN305776       36043       72227       SMU100618         11921       48105       BCE113273       23983       60167       KPN305781       36044       72228       SMU100622         11922       48106       BCE113281       23984       60168       KPN305795       36045       72229       SMU100625         11923       48107       BCE113297       23985       60169       KPN305795       36046       72230       SMU100627         11924       48108  |      |             |              |       |       |              |       |         |              |
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| 11917       48101       BCE113211       23979       60163       KPN305737       36040       72224       SMU100612         11918       48102       BCE113227       23980       60164       KPN305748       36041       72225       SMU100613         11919       48103       BCE113237       23981       60165       KPN305761       36042       72226       SMU100616         11920       48104       BCE113271       23982       60166       KPN305776       36043       72227       SMU100618         11921       48105       BCE113273       23983       60167       KPN305781       36044       72228       SMU100622         11922       48106       BCE113281       23984       60168       KPN305795       36045       72229       SMU100625         11923       48107       BCE113297       23985       60169       KPN305795       36046       72230       SMU100627         11924       48108       BCE113308       23987       60170       KPN305802       36047       72231       SMU100634         11925       48109       BCE113319       23988       60172       KPN305829       36049       72233       SMU100640         11927       48111  |      |             |              |       |       | 1            |       |         |              |
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| wo (           | 02/077183      |                        |                |                |                        |                | PCT/US         | 02/09107               |
|----------------|----------------|------------------------|----------------|----------------|------------------------|----------------|----------------|------------------------|
| DNA            | Protein        | Gene LocusID           | DNA            | Protein        | Gene LocusID           | DNA            | Protein        | Gene LocusID           |
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| 11983          | 48167          | BCE114237              | 24045          | 60229          | KPN306809              | 36106          | 72290          | SMU100787              |
| 11984          | 48168          | BCE114240              | 24046          | 60230          | KPN306822              | 36107          | 72291          | SMU100789              |
| 11985          | 48169          | BCE114261              | 24047          | 60231          | KPN306827              | 36108          | 72292          | SMU100790              |